MACDONALD COLLEGE MAGAZINE

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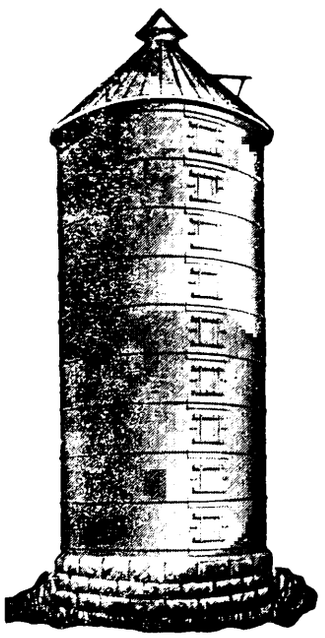

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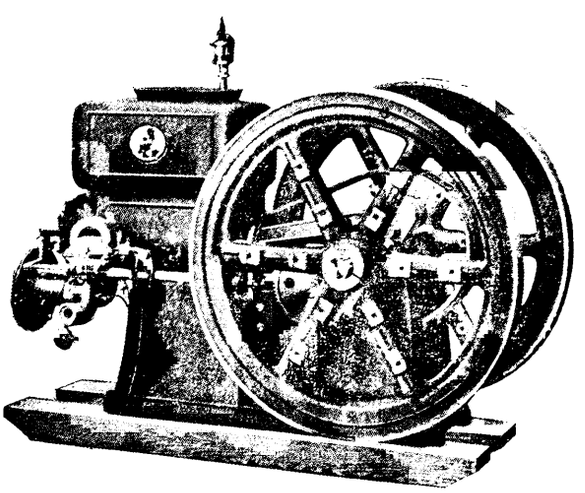

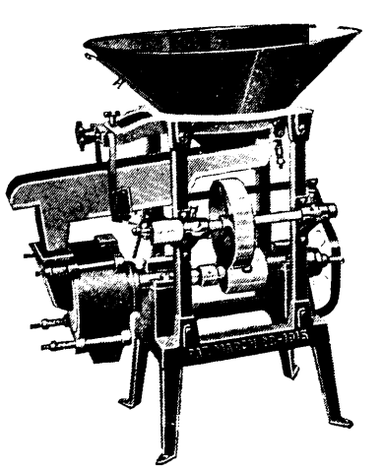

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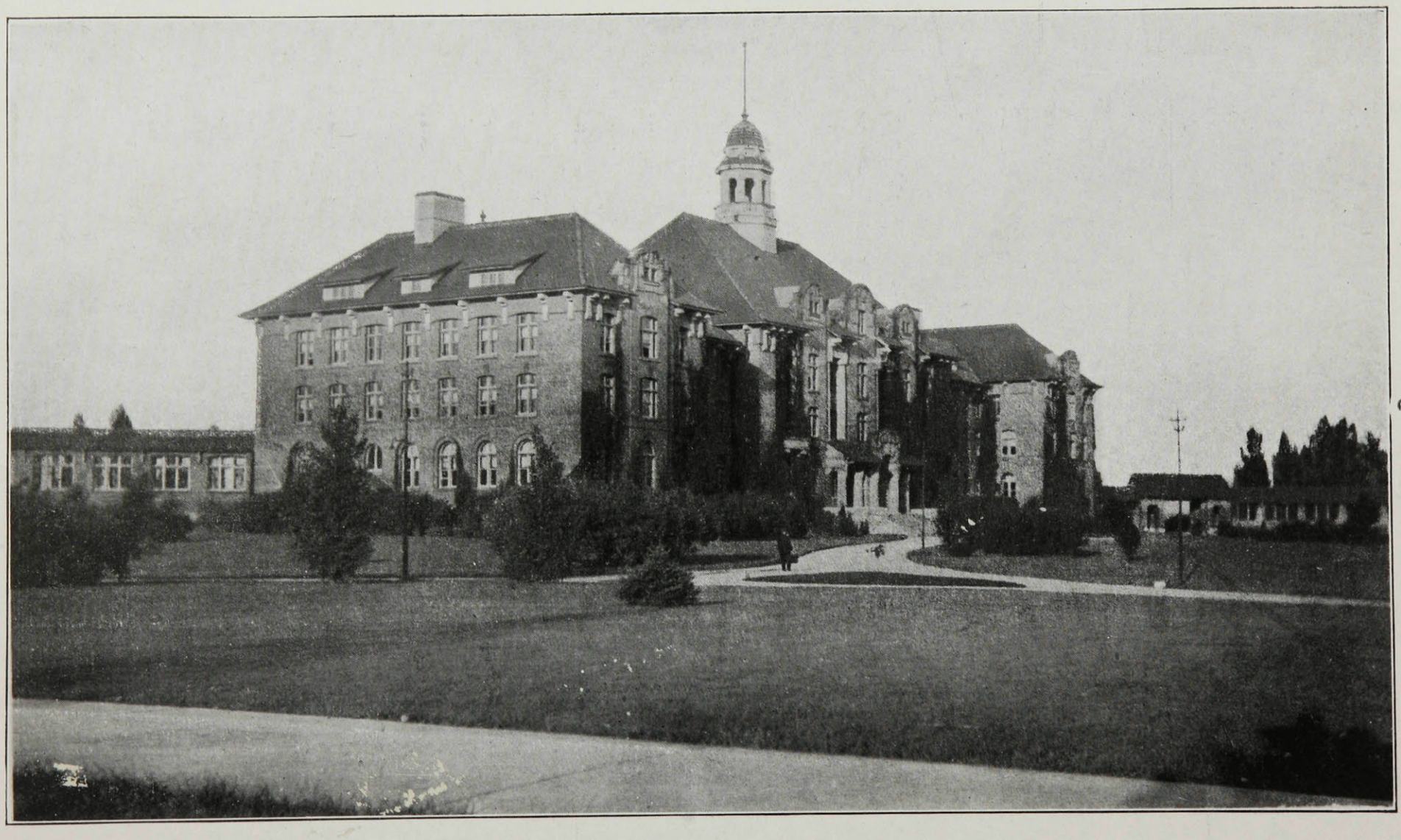

Control of the Brown Tail Moth in Canada

THE advent of the Brown Tail Moth (Euproctis chrysorrhora) in Canada was not entirely unexpected, as its destructive progress northward from the New England States had been noted by men of the Dominion Entomological Staff. The first male moth taken in Canada was at Nepris, Kings County, New Brunswick, in 1902. In 1905 one adult male moth was taken in Digby, Nova Scotia. In 1907 several nests were discovered in Kings County, Nova Scotia, by a graduate of the Nova Scotia Agricultural College, and later, nests were discovered in Annapolis County. In 1910 a single egg mass was discovered near St. Stephen, New Brunswick. The Brown Tail Moth had "arrived" in Canada.

Immediate measures were taken for its control. These measures may be divided into three main groups; first, by collecting and destroying the winter nests; second, by the use of poison sprays on the foliage of host plants; third, by rearing and distributing natural enemies.

An attempt was made to destroy the winter nests by offering a bounty of ten cents per nest to anyone sending the same to the local Department of Agriculture, but this method proving inadequate, trained inspectors were appointed to search the infested areas. In Nova Scotia, this work was under the direct supervision of Professor Smith of the Nova Scotia Agricultural College, and the inspectors—graduates of the college—were paid by the local government. By this means, in the winter of 1907, 6,000 nests were taken; in 1907-08, 4,000 nests; in 1908-09, 800 nests; 1909-10, 1,496 nests; and in 1910-11, 4,369 nests, were collected and destroyed. In this way, the course of the Brown Tail Moth in Nova Scotia was checked.

At this juncture the campaign was put under the direct supervision of Dr. Gordon Hewitt, head of the Dominion Department of Entomology, which paid one half the inspectors, while the local governments paid the remainder. Mr. G. E. Sanders was appointed field officer in charge of this work in Nova Scotia. As New Brunswick was infested about this time, Mr. Sanders went over there to start inspection work, previous to the appointment of Mr. J. D. Sothill. Later, Mr. L. S. McLaine was appointed field officer in charge for New Brunswick.

With these able men in charge of the field work, the collecting of winter nests was vigorously carried on. During the winter of 1911-12, 7,707 nests were collected in Nova Scotia, while 2,425 nests were taken in New Brunswick; in 1912-13, 11,054 nests were taken in Nova Scotia, while New Brunswick only had 81 nests; in 1913-14, 24,156 nests were taken in Nova Scotia, and 28,100 nests in New Brunswick; in 1914-15, 18,154 nests were taken in Nova Scotia, and 239 nests in New Brunswick. Even with this vigorous inspection, the figures show variations and increase.

There are several factors, such as re-infestation, drop of nests, and difficulty

of collecting nests from wild trees in isolate districts, which have to do with the fluctuation. A heavy reinfestation by flight of moths from the New England States which covered western parts of Nova Scotia and New Brunswick took place in July 1913. This flight was aided by favorable south-westerly winds and no rain, a combination rarely found at this season, so that we do not get such an infestation every year. The "drop of nests," by which is meant the breaking of the silk which holds the petioles of leaves to the twigs, and in consequence their fall to the ground, has been in some cases as high or higher than 5 per cent. As the nests often winter nearly as well on the ground as on the trees, and as inspectors are thus unable to collect them, it is therefore practically impossible to clean up a district by collection alone. The presence of wild apple and thorn trees in pastures and isolated fields, make it very difficult to collect all the nests in any district.

The second general measure of control, namely, the use of poison sprays on foliage of host plants may now be dealt with. About 85 per cent of the Brown Tail Moths are found on apple, pear, plum, cherry and other cultivated trees, and thus can easily be controlled by the ordinary sprays. Those found on thorn, chokecherry, elm, oak, maple, birch, beech, willow, poplar, hazel, elder and bayberry are scattered over the countryside, and therefore are very difficult, or impossible, to control by the use of sprays. Thus we see that the Brown Tail Moth in properly sprayed orchards need not be feared, but those on wild trees will prevent eradication by this means.

The third and last method of control, that of rearing and distributing natural enemies, is being now taken up by the Dominion Government, and in a few years it is hoped will prove as effective a check as it has been in Europe. Starting from 1913, by the courtesy of Dr. L. O. Howard, chief of the Bureau of Entomology, it has been possible to raise parasites and insect enemies at the laboratory at Melrose Highlands, Massachusetts. These parasites have been forwarded to Fredericton for colonization in the Maritime Provinces, and consisted of a total of 67,500 cocoons of a small hymenopterous parasite (Apanteles lacteicolor); 4,100 adults of a large predaceous beetle (Calosoma sycophanta); also 31,100 puparia of the tachinid parasite (Compsilura concinnata). These natural enemies of the Brown Tail Moth have not as yet become strong enough to materially control the pest. The consideration of natural enemies would not be complete without mention of that important fungus, Empersa aulicae, which under favorable conditions destroys a large number of the larvae This fungus attacks the caterpillars when they are less than one quarter of an inch long, and usually kills them shortly after they have completed their winter nest. Often as high as 25 per cent are destroyed in this way.

Thus we see that although the Brown Tail Moth has been established in Eastern Canada for over 10 years, we are now in a better position to control it by both natural and artificial means than ever before, and it is to be hoped that the natural means will soon relieve the inspectors of the arduous work of gathering the winter nests.

E. A. M., Agr. '18.

Rambling Thoughts of a Rambling Thinker

J. E. McOuat, B.S.A.

AS one sits in a sleigh from day to day and drives from school to school, visiting the children who are taking part in school fair work, there is given an ample opportunity to think. Many thoughts have come to my mind as I pass over the roads, not because I have special ability as a thinker, but because there is very little else to do.

Many of the thinking spells have been ones of small importance, but one thought has come to me so frequently that it has become crystallized in my mind and remains with me from day to day.

Others have probably reached the conclusion long ago and acted upon it to some extent, but I believe there are still many who have yet to realize the importance of it, and I wish in my feeble way to give expression to it and to advocate its development.

What is this conclusion? It is, that the children of our country schools are the most important asset and liability of our nation.

This statement may seem contradictory, but it is not. We owe the children the best we can give them along the lines of education, of culture, of comfort and of health. It is our duty when these children are sent to our schools to see they are given every facility to become citizens in the true sense of the word. Their training in school will have much to do with their usefulness to the country when they have grown up to manhood and womanhood.

As teachers are we fulfilling this liability? Do we from day to day put forth that effort which in the coming years will make our youth the richest asset of the nation? Do we strive to reach out beyond the actual mechanical work of the school room and place within the hearts of our boys and girls the true ideals of a broad and useful life?

They will never receive these ideals so well as they will to-day, in the days when their hearts are open to suggestion and guidance. As they sit there in their seats, with their faces looking trustfully at us, let us realize the importance of this training, and endeavor to imbue them with that desire to be citizens of a high order, useful in every way.

Not only in future years can they be of use to the country if properly trained. The boys and girls of our schools are to-day willing, as a rule, to do their best to help, in any possible manner, the welfare of the community and also of the country.

Most pupils in our farming districts are brought up under conditions which give them that desire. They are partners with their fathers and mothers in the work at home. Morning and evening on school days, and quite often all day on Saturdays they are helping in the daily work of the farm.

There is a multitude of ways in which they can and will help if the request is made them. The school fair work is an example. The pupils are experimenting with different kinds of seed in order to see which varieties will do best on their farms. At the same time they are helping to some degree to increase the production of the country.

They can also furnish data as to the production of the farm, the number of live stock kept, and much other valuable information.

To-day I had further proof of the willingness of our boys to help the production of the country. An appeal was made to some of the older boys with regard to their growing an acre of wheat next year, in order that more wheat might be available next season. Every boy in that school, old enough to undertake such a task, put up his hand as a sign of his eagerness to help in the work.

My thought, though fixed in my mind, has not been clearly placed upon paper. My purpose firstly, has been to point out our duty in helping the boys and girls to achieve a useful life by helping them as they go to school. At the same time, we increase the probability of that usefulness by having them do even now many things which are of benefit to the country and at the same time strengthen within them the desire to be useful when grown up.

Secondly, I have endeavored to bring up this thought so that others may think upon the matter and perhaps come to realize more than before the duty we all owe to the hard-working, industrious boys and girls of our country schools.

Thought of itself has no value unless expressed in action. Let us all dwell upon this thought, and when we have done so let us endeavor to do our duty in helping to make our Dominion stronger and better through our growing youth.

BOYS AND GIRLS WHO ARE TRYING TO DO THEIR BIT.

Boston: Past and Present

"St. Botolph's Town! So may that
name forever stand;
A landmark, and a symbol of the
power
That lies concentrated in a single
word."

DOWN from the Green mountains, over the Boston line, we speed one summer's eve to spend a fortnight in that great city.

It is dark ere we pass in, thundering over the trestle which bridges a bit of the Bay, and as we enter the North Station, there comes up strongly an odor of clams—a promise of the sea.

Through the bustle and the crowd, we are whirled by underground trolley to the place where we are to spend our resting hours, and settle down for the night, to awaken full of the joy of living, ready to sally forth in search of romance and adventure.

We are lured as by a magnet to that great breathing space, Boston Common; an extensive park, through one corner of which a bit of the Charles has backed up, forming a pretty little lake of irregular shape.

From it, wooded walks lead off in every direction, past beautifully colored flower beds, and having rustic seats set here and there, over which the elms cast fitful shadows; whilst above all, towers the blue dome of the heavens.

Oliver Wendell Holmes looked out over this peaceful scene while he wrote "Autocrat of the Breakfast Table," and one's imagination pictures readily enough a procession of one thousand school children wending their way across the Common to witness the unveiling of the statue of that man, so dear to loyal American hearts. We look over, and there in the distance, shining in the sunlight, is the gold-crowned cupola of the new State House.

On the other side, peacefully sleeping in a little old cemetery,—the oldest in Boston, side by side, lie English and American soldiers, once bitter enemies, now sworn friends, and "each grave within its walls breathes a benign o'er the sleeping dead."

The morning passed quickly, and now it is the noon hour. Suppose we go over to Mary Elizabeth's Tea Room. We feel sure that "Brown Betty" originated in this fairy laboratory; one triumph among many of culinary art, the result obtained, spelling the slogan: "Something evolved from nothing."

The room is done in white latticed woodwork, the doors and windows small. Directly in front, as we enter, is a cozy fire-place with charming alcoves at each side. A plate rail supports bits of rare china and handicraft baskets.

One wall is formed entirely of glass-paned doors, a clever touch being given by utilizing a florist's shop adjoining, to assist in the decorative effect. A charming vista of color is thus obtained. The china is of a creamy tint, with a design of old-fashioned blue and pink flowers.

The whole atmosphere breathes of our grandmothers, lavender, calico patterns, and the good old days.

Reluctantly we leave, and wander around the Hub, where the shops are wonderful, coming out on "Newspaper Row," on our way to the Market.

A Saturday afternoon Market in Boston is worth going far to see. The streets are narrow and crooked beyond description. A line of trucks fill the centre, their vendors jabbering away in broken English, calling out their wares. Among them are picturesque-looking Italians, dark-eyed Greeks, stolid faced Russians and many others of foreign extraction.

Their trucks are filled with vegetables of every sort, fruits ranging from peaches to olives, and wriggling sprats, flounders, shrimps, crabs, large and small, and clams

The clamour is deafening; so we escape, and going into a grill have a sea dinner, which is in itself an experience.

On Sunday we take our way down into Old Boston, to Salem street — which smells like Billingsgate, but looks interesting — having innumerable tiny shops, with signs written in many languages.

Soon we reach the old North Church, and entering, are locked in a box pew, dated 1624 A.D. A joint Communion Service is being held by the Italian rector and his English curate

There are many interesting tablets on the walls. Part of one reads thus: "I desire to be buried ten feet down safe from British bullets."

After the Benediction is pronounced, we follow the Verger up the stairs to the belfry, and there look down over the roofs of the town.

What do we see? Surely it is midnight instead of high noon, and we are in a beleagured city!

Away beyond, swinging at her moorings, lies the "Somerset," British man-of-war. It may be a phantom ship, but we feel that the sound in the street below is not that of a foreign populace, whiling away a Sunday hour, but is, instead, a call to arms of the Grenadiers! They are marching down to their boats planning to strike another blow at America's freedom.

Instinctively we look about for the lantern with which to give the signal of alarm, to that ghostly horseman, waiting yonder on the Charlestown shore, beside his impatient steed, ready to ride through Middlesex to warn the villagers and farmers of the approach of the enemy.

Do you not hear the sound, borne on the night wind of the shadowy past?—

A hurry of hoofs in a village street,
A shape in the moonlight, a bulk in the dark,
And beneath from the pebbles in passing, a spark
Struck out by a steed flying fearless and fleet.
That was all! And yet, through the gloom and the light
The fate of a nation was riding that night;
And the spark struck out by the steed in his flight
Kindled the land into flame with its heat."

Down there in that square we distinguish a modest little wooden dwelling, quaint over-hanging eaves supported by well-worn hitching posts.

The vision had faded, but we return home filled with a great desire to perform noble deeds as fearlessly, and as humbly, as did Paul Revere

Now we go with Longfellow up the River Charles, over the Fens and far beyond, till we come to the sea, and there sit on the great boulders washed by breaking waves of a "stern and rockbound coast"; coming home in the dusk to spend hours in the Public Library, or visiting theatres and other places of amusement.

One sunny afternoon, we go over to Revere Beach, Boston's favorite bathing place. To get there we board a surface car, change to a subway, then to an elevated, back to a surface, and complete our journey in a ferry boat.

There, stretched full length on the sands, we watch the smoke lazily curling up in great white rings from the tall chimney pots of Lynn, across the crimson twilight, to mingle with the clouds.

Cambridge beckons to us, and we wander past Washington's headquarters, and the ivy-clad University Buildings of Harvard, peep in at the chapel, and pass thro' Gate "77" to see Memorial Hall, a great dining room seating one thousand persons.

Then we go to the Agassiz Museum to see the Ware collection of glass flowers.

From every part of the continent have been brought specimens for models, and in their natural size and coloring they were reproduced in glass.

Some of the tropical varieties are of rare beauty, but the old favorites are all there, silently claiming our devotion. It is an entrancing sight, and flower lovers linger long to admire their fragile loveliness.

The home of Longfellow is of colonial type, set in extensive grounds, a lily-bordered path leading into another garden, the home of his youngest daughter, "Edith with golden hair."

A park stretches down in front of his house to the river; half way down, at the foot of the terrace, is a charming little court yard surrounding a fountain having marble seats at either side. We see there the sculptured figures of many of Longfellow's heroes and heroines, prominent in song and story.

We reach the home of the "Village Blacksmith," and stand for a moment "under a spreading chestnut tree," then go on to the home of Lowell.

"Elmwood" is another stately colonial house, set in the midst of fine old elms. Here Lowell was born, and here, after giving his life and his talents in willing service for his fellow men, he died.

Sadly we realize that our vacation days are over.

Some day we may return and visit the many other places of interest together, gathering inspiration for our future days from dear old Boston's treasure house

MARY C. MELDRUM.

THE

MACDONALD COLLEGE MAGAZINE

"Mastery for Service"

PUBLISHED BY THE STUDENTS

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Editorial

THE CHRISTMAS SEASON.

ANOTHER Christmas season has passed, carrying with it its customary joviality and cheer. It has been a season of relaxation and optimism, a period in which to forget for a brief time the sterner sides of life, to forget the dark clouds, but to see clearly their silver linings. And we have reason for our smiling optimism. Ours is the cheeriness of a courage to continue until Right is predominant over Might, a cheeriness built on a knowledge of the justice of our cause, a cheeriness founded on a conviction that the future holds in store a freer and better world because of the sacrifices now being made. So for a brief period we banish the thoughts of the serious obstacles in our path, and smile and make merry, that in our optimism we may strengthen the courage of others, and that the close of the festive season will find us all enthused and reinvigorated, with our minds fresh and

our main purposes standing out clear and unclouded. We smile, for as we smile we reflect that now just as much as before the war, the great desire and aim of our Empire is "Peace on earth, goodwill towards men."

CHANGES AT MACDONALD.

CHRISTMAS brings us many good things, but some of these things are tempered with regret. All of us remaining at Macdonald were glad to see the successful completion of their course by the Elementary Teachers, and the Short Course Household Science. Yet while we rejoice with them over their achievements, we feel that their going, is going to sever us from many newly formed friendships. Our departing friends have all our best wishes for a bright and successful future.

The coming session will see many new faces at Macdonald replacing the vacant spaces left by the outgoing students. To the new students we offer a hearty welcome, knowing well that it will not be long before they have settled down to the regular student routine, and will be adding their quota to the life and organizations of Macdonald College.

INCREASED HOG PRODUCTION.

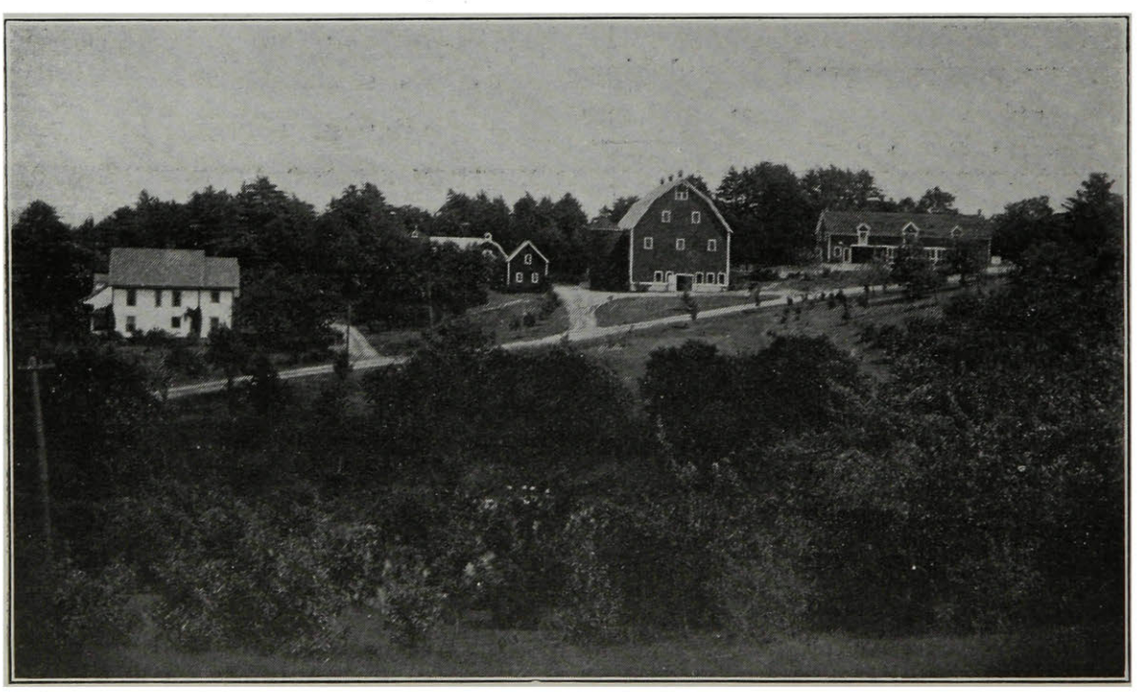
Agricultural authorities throughout the whole Dominion are engaged in an energetic campaign to increase hog production. The need for increased hog production is undoubtedly urgent. The reasons for concentrating production on the hog in particular are fairly obvious. There is a great shortage of all foods in Europe, and of meat in particular. Coupled with this there is a shortage of available shipping. It is advisable then, that what shipping is available should be used in carrying food in the most concentrated form. This means that our exports of food to our allies should be as far as possible in the form of meat. It is also advisable that we produce this meat in as large a quantity and as quickly as possible. Here the hog takes precedence over any other animal. The hog will produce more meat from a given amount of feed than any other animal, and hog production can be increased in a small amount of time to an extent that it would take years to achieve with any other animal. The situation is then plain and obvious. It remains, however, for the public, and particularly the agricultural class, to realize the urgency of the need, and the grave consequences that might ensue should the necessary food supplies not be forthcoming.

The responsibility for increased production undoubtedly rests mainly with the farmer. But the farmer has difficulties by no means easy to overcome. Prominent among these are labor shortage, and the scarcity and high price of feeds. It is to be noted with much satisfaction that the authorities have arranged for the sale of mill feeds at cost price.

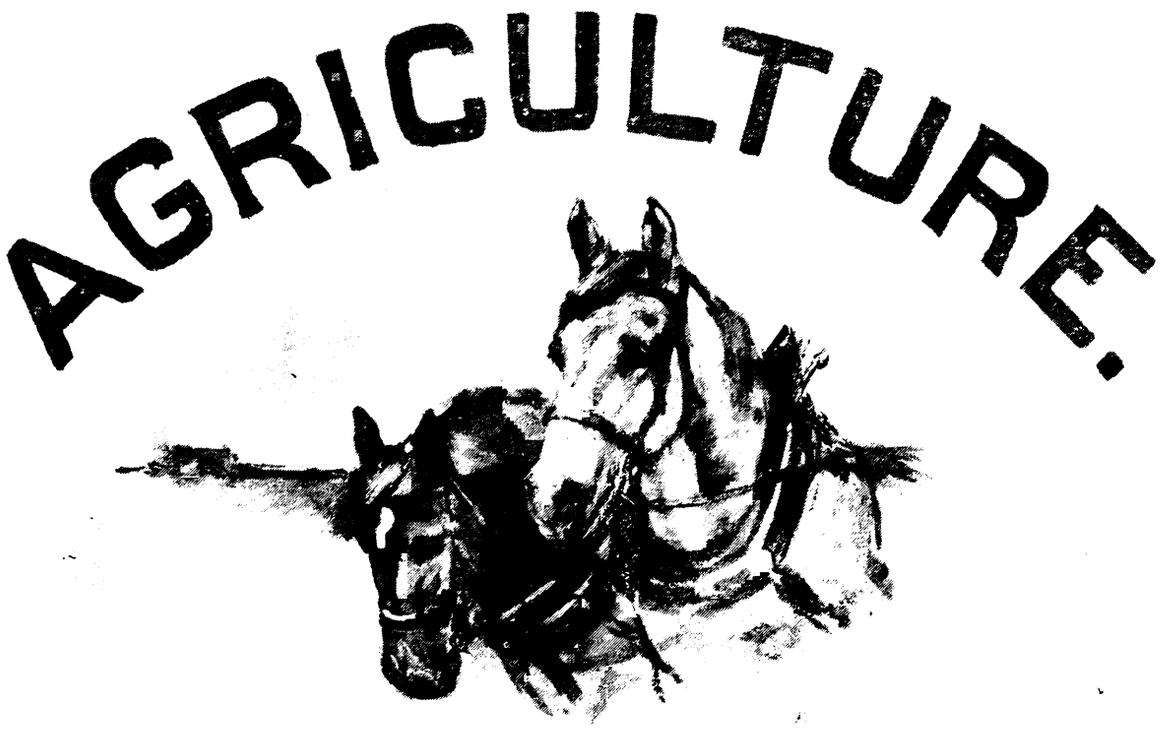
Though hog production depends mostly on the farmer, yet the people of the towns and cities can nevertheless help to swell production. Waste material, of which there is a certain amount in every household, has great value for pig feeding. There is no reason why city dwellers should not take up hog production in the same energetic way many of them took up

the cultivation of the vacant lot. Some of our Provincial Governments are arranging to supply young pigs to those applying for them, and to supply information regarding their care and feeding. In many places, where necessary, urban municipalities are modifying their by-laws to permit of pigs being kept within town or city limits.

The prices for hogs are certain to remain high, and there is no possibility of an over-production, at least for years. With these inducements there is no reason why a united effort can not be made for increased production, an effort which will not only result in relieving the overseas shortage, but will also result in profit for the individual.



EXPERIMENTAL STATION, KENTVILLE, N. S.



Why Canada Should Produce More Wheat

By J. Moynan, B.S.A.

IN this time of strenuous world affairs, when three-fourths of the nations on the earth are grappling in a death struggle, the necessity of conserving and developing the entire resources of the nation should be fully realized. Recognizing that the endurance of a nation depends upon the extent of its food supply, a concerted effort is being put forward by our increased production propogandists appealing to the patriotism of the nation, admonishing each and every farmer to do all in his power towards increasing our food supply, so that the demands of the Allies might be supplied. The reason for keeping this appeal ringing so incessantly merits explanation at the present time from a practical and business standpoint. To most clearly understand the practicability and the necessity of Canada producing more wheat, three factors should be taken into consideration; first, Canada's adaptability to wheat growing; second, the quality and quantity of wheat she has produced this year; third, why she should produce more next year.

The adaptability of wheat to Canadian conditions is unquestionable when we realize that the acreage of wheat in Canada exceeds that of any other grain crop, and that the sale of wheat furnishes the principal source of income for the farmers of the three western provinces—Manitoba, Alberta and Saskatchewan. Wheat farming has always proven suitable for pioneer conditions, such as exist on a considerable area of

our prairie provinces. Its special value being placed in the fact that it is always saleable, it can be stored and sent long distances without deteriorating, and of all the agricultural commodities it is the easiest to transport. That the production of a crop containing a combination of so many desirable qualities is practicable seems assured. For it contains those qualities which make the production remunerative and practical from the farmer's standpoint, and at the same time supplies our importing nations with a product which they can handle without loss, and store in large quantities.

Once more Canada has seeded, reaped, threshed and directed to the 2,500 country elevators distributed throughout the Dominion a wheat crop, which latest estimates place at 231,000,000 bushels, or as yielding approximately 15¾ bushels per acre. In conjunction with the actual total yields the stock in store at the terminal elevators, Fort William, show that this year's crop surpasses that of last year in quality, there being twice as much No. 1 hard and four times as much No. 1 Northern in store at the terminals as at a similar date last year. This season's crop is passing inspection at the rate of from ten to eleven hundred cars per day. The total number of cars inspected and the official grading for the month of November is as follows:—

No. 1 Hard	57	cars
No. 1 Northern	13,844	"
No. 2 "	8,302	"
No. 3 "	3,858	"
No. 4 Wheat	1,279	"
No. 5 "	833	"
No. 6 "	542	"
Other grades	1,340	"

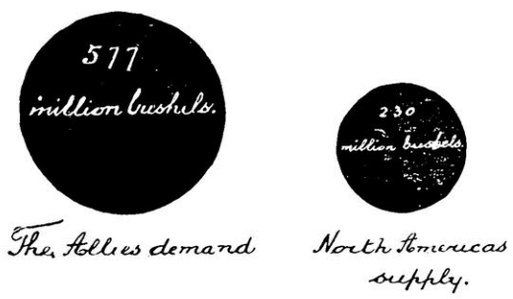
Such a crop as this, possessing both quality and quantity, is indeed most gratifying. For it clearly indicates what Canada has done and is capable of doing, provided her resources and energies are developed to their utmost.

Knowing now what Canada has been able to accomplish this year, a few figures outlining the production and imports of the allied nations will give us an understanding of the demand that has to be filled if Europe's food supply is kept on a par with its normal consumption. For the three years before the war the United States exported on an average 380,000,000 bushels of wheat to Italy, France, Belgium and Great Britain. At that time these four allied countries produced on an average 590,000,000 bushels. This year their estimated production is only 393,000,000 bushels. Thus it will take a total import into these countries of 577,000,000 bushels to maintain their normal consumption.

If the rest of the world could be drawn upon there would be no wheat shortage in Europe, and there would be no necessity of economizing here, or in Europe. For the exportable surplus in Australia, India, and the Argentine is estimated at 593,000,000 bushels. But the shortage in shipping has made it practically impossible to procure any of this supply, consequently Europe finds it necessary to secure all the wheat it can from North America. By so doing the necessary shipping distance is greatly reduced, shipping dangers are decreased and one ship can do the work that it would take three to do if supplies had to be obtained from Australia, India, or the Argentine.

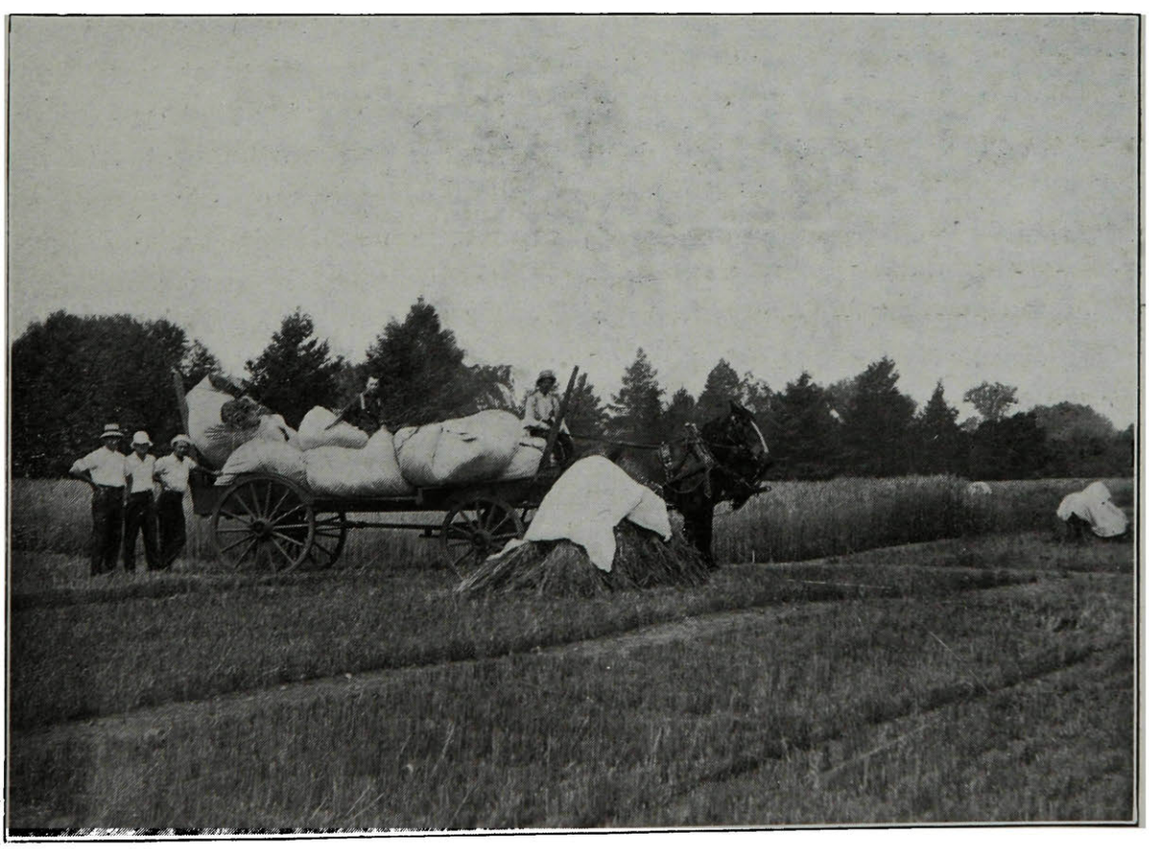
To supply this demand of 577,000,000 bushels, United States has an exportable surplus estimated at 80,000,000 bushels, Canada will have an exportable surplus of 150,000,000 bushels, or a

total from North America of 230,000,000 bushels. The proportion of the Allies' need to the North American supply can be gathered from the following diagrams:



Thus we see that Canada and the United States combined do not produce half enough surplus wheat to supply the Allies' requirements of 577,000,000 bushels to maintain their normal consumption. Consequently under such favorable soil and climatic conditions as the Canadian farmer is situated, it is not surprising that he is urged to produce to his utmost. Nor is it surprising with a demand so keen that the consumer is urged to conserve and to substitute wheat for such foodstuffs as are not suitable for exportation.

Realizing that there is a food shortage, co-operation must take place between the producer, the consumer and the propogandist. Every man, woman, and child should devise ways and means of substituting foods for those desired for exportation. The producer should systematically analyze his fertile acres and determine now, how and to what extent he can most successfully meet the Allies' wheat demands. The increased production propogandist should do more than urge that production be increased, but should see that the producer has at his disposal, at the right time ,a liberal supply of good seed, that none may be diverted through lack of seed from participating in the 1918 wheat growing campaign. If these three factions work together with the idea of making one ship do the work of three, an increased wheat supply will be available for exportation from North America next season.



WHEAT PLOTS, CENTRAL EXPERIMENTAL FARM.

The Production of Root Seed

UNTIL the year 1914, practically all the root seed sown in Canada was imported from Europe. Why was this? One of the reasons was because we were under the illusion that our soil and climatic conditions were not suitable for the production of high quality seed. This conception has no foundation, and is entirely wrong. Another reason was the cost of production. Labor was so cheap in Europe that we thought it was impossible to compete with their prices. This idea was probably right to a certain degree, but the quality of Canadian grown seed is so much superior to imported seed that it counter-balances the cost of production.

Experiments conducted the last few years at Experimental Stations all over the Dominion have conclusively proven that Canadian grown seed is in no way inferior to imported seed. On the contrary, it produces better crops than does the imported seed. Let me state the results of two experiments. Mammoth Long Red Mangel seed, raised at the Central Experimental Farm, Ottawa, in 1915, produced a root crop in 1916 which averaged, when tested at nine Dominion Experimental Stations, over two and four-fifths tons more to the acre than imported seed of the same variety. Kangaroo Swede Turnip seed, raised at Fredericton, N.B., and tested at five experimental stations in Eastern Canada, gave an average yield of two and three-quarters tons in excess of the imported seed, grown in comparison with it. It is possible to quote similar results from many other experiments, but these two are sufficient to show the advantage of Canadian grown seed. It has been true, in some instances, that imported seed has only been slightly behind, but what is the real importance of this? In no single case did the Canadian grown seed fall below the European grown seed.

General Principals for Successful Root Seed Growing.

Mangels, Sugar Beets, Carrots and Fall Turnips, are all biennial plants, that is, they need as a rule two years to develop seed. During the first year the roots are developed and stored up with food, which, during the second year is utilized for the formation of seed-bearing stalks.

When selecting the "seed-roots" care should be taken to pick only the ones that are perfectly healthy, smooth and uniform. Roots having prongs or other undesirable qualities should be carefully avoided. Extra care should be taken to see that the selected conform strictly to the type of the variety you want. This rule must be scrupulously observed, as the value of the seed depends on the trueness to name.

To harvest the roots care again must be exercised. Do not cut the rootlet off and do not cut the stem off too near the top of the root. If the stem is cut off too near the top of the root the crown is liable to be injured, and thus diminish the seed-stalk developing ability. To be on the safe side, cut the top off three or four inches above the crown.

It is necessary to store the roots in the winter in such a way that they will not be injured by frost and at the same time, not damaged by heating. It is much easier to protect them from frost than to prevent them from heating and as a result thereof, rotting. A good root cellar should be dry and well ventilated. The ventilation system should be arranged so that the tem-

perature can be kept fairly low in the spring. This is the time when heating and decay will be most likely to take place. The roots may be pitted outside when a cellar is not available. The pit must be in a well-drained place—a slight elevation, where the water will not accumulate will prove an ideal situation. It is necessary to have the pit well ventilated.

To get best results in root seed growing a rich sandy or clay loam should be chosen. It must necessarily be well drained. If the soil is deficient in lime, a good application of ground limestone will prove beneficial. Land should also be free from weeds. A general rule is, a soil which grows good roots of certain varieties for feed, will also be found suitable for seed roots of the same varieties.

It is not necessary to use full-grown roots for seed. In Europe the seed is raised from half-grown roots known as "stecklings." The seed for "stecklings" is sown about the end of July, and the roots are harvested at the same time as the other roots. Experiments have shown that this method may be used in Canada, and with success, but it is not advocated, as the "steckling" is not large enough to tell whether it is true to type or not.

Special Methods.

Mangels and Sugar Beet roots are planted as soon as the ground is in good condition, that is to say, about the same time as the seed is sown for roots. They are generally planted in rows twenty-four to thirty inches apart and twenty to twenty-four inches between the roots in each row. Sometimes they are planted twenty-four inches each way. This system has the advantage of allowing horse cultivation in either direction. The roots can be planted either with a spade or after a plough. If the first method is used, the holes are made the proper distances apart and the roots placed in them and covered. The second method is only advised on large areas and where the soil is light and easy to work. A furrow is made, and the roots placed the proper distances apart, then the second furrow is made in such a way that the roots in the first row are covered. It is necessary, no matter which method is used, to cover the roots completely, leaving the neck barely protruding. During early summer the field should be carefully cultivated. The horse cultivator should not be used after the plants are twelve inches high.

The harvesting takes place when the seed clusters are a brownish-green color. The very top of the root is cut off with a sharp spade and the stalks left on the ground for a few days to dry. After they have dried they are tied up into small bundles and put into stooks and left for a couple of weeks. By this time they are ready to haul in, providing the weather has been favorable.

The threshing can be done with a flail and the seed cleaned with a fanning mill with sieves that will catch the seed clusters and bits of stem adhering to them which require further threshing with the flail. For large quantities an ordinary threshing machine may be used and the seed put through a fanning mill afterwards.

The planting of turnips is identical with that of mangels and sugar beets. Special care should be taken to eradicate a certain kind of weed, generally known as Charlock (Brassica campestrish) from the turnip field and vicinity. This particular weed crosses readily with turnips. When turnip flowers are fertilized by this wild mustard, just mentioned, they will develop seed

which when sown produces perfectly useless roots.

Harvesting is done when the pods have taken on a yellowish-brown tint. The seed stalks are cut off, with a sharp knife or sickle, and tied in bundles. If possible, the operation should be done when the pods are wet, as this prevents shelling to a large extent. The bundles are put in stooks until they are thoroughly dry and then drawn in. When drawing in, it is advisable to put a tarpaulin in the bottom of the wagon to catch and save the seed that is certain to be shelled with the handling.

Threshing is done in the same way as described for mangels.

Carrots are planted in the spring as early as possible. They are planted out in the same way as mangels or turnips, the only difference being that they are placed sixteen inches apart in each row. Cultivate until the plants are two feet high.

The carrot seed grower should be on the look-out for Wild Carrot plants in the vicinity. If Wild Carrot plants are present they will cross fertilize the flowers of the seed carrot. Seed, originated from a cross with Wild Carrot is worse than useless.

Harvesting is done in an entirely different way from that employed in harvesting mangels or turnips. The seed clusters do not all ripen at the same time, and it is, therefore, necessary to pick them off by hand as they ripen.

The threshing is done in much the same way as was described for the other roots. If the grower has a clover seed huller he may use it to advantage to thresh his carrot seed.

Yields.

The yields of root seed per acre are large and profitable. An average yield under good conditions varies from one thousand to one thousand two hundred pounds. The seed sells at present for approximately seventy-five cents per lb. It can readily be seen by this that profits can be realized in growing root seed.

I think it is advisable for every farmer to grow his own root seed. Fifteen to twenty medium-sized roots will produce sufficient seed to sow one acre. The selection is easily done when you are harvesting your regular crop, and you know your seed will be true to variety.—J. W. S., '20.

Bean Growing in Quebec

THE fact that beans are such a good price, also the immense quantity of food value they contain, should be enough to convince farmers of the possibilities in this crop. Beans might be classed as one of the principle cash crops in the mixed farming districts of Eastern Canada, for the following reasons:

(1) Beans work well into a rotation as a cultivated crop.

(2) Being legumes they add nitrogen to the soil.

(3) They always sell for cash.

(4) They can be threshed and cleaned during the winter months, when there is little else to do.

There has been a vast increase in the bean acreage this past season, and undoubtedly it will continue to increase as long as the price remains up. This increase in acreage can be criticized to a certain extent, owing to the fact that it demands more labor, and unless the increase can be properly handled and

attended to, it would be far better to keep the acreage down and produce a more marketable product. The opinion among a great many farmers is, that beans will grow on almost any soil, and will produce *a crop* with little attention. Very little credit can be given an opinion of this nature, for any crop without the proper care and attention generally proves to be an unprofitable one.

Beans have perhaps been more extensively grown on loamy soils, but by recent experiments it has been found that they will do well on a fairly heavy clay, provided it is well drained. If beans are to be planted on a heavy soil, fall ploughing should be practiced. This tends to improve the texture of the soil, as well as keep down perennial weeds. Again, in case of fall ploughing, the soil should be kept in a fine state of cultivation during the spring months before planting.

The cultivation of the bean crop is a very important phase of successful bean growing. It is good practice to do most of the cultivating before the plants begin to blossom, for the cultivator will tend to knock off a great many blossoms. If thorough cultivation has been practiced, very little hoeing will be necessary.

Perhaps the best and most popular variety for this province is the Pea Bean. This is a small, white bean and seems to be very attractive from the consumers standpoint. Other varieties, such as the Yellow Eye, or the Marrow Fat, are also grown, but not so extensively as the Pea Bean.

Beans are usually ready to pull by the first or second week in September. This operation is perhaps the one phase of bean growing that keeps down the acreage. Bean pulling machines are being used where large areas are being grown, but are not practicable on the ordinary farm in this province. A common practice after pulling is to pile the beans in small bunches, turning over occasionally until well dried.

Threshing should not be done with an ordinary threshing machine, for a large number of split beans will be the result, and will necessitate more thorough cleaning.—R. A. D., '19.

Vacant Lot Gardening

IN European countries it has been the custom for a large number of the middle classes and laborers to have their own gardens in which vegetables are often a considerable part. The labor is usually done by one or more members of the family so that little cash outlay is required other than for seeds, implements, and fertilizers. The returns are not only in the cash value of the produce secured, but also in the pleasure and satisfaction in seeing plants grow and develop and in the general healthfulness obtained from the work. The wealthy classes have their pretentious gardens in which skilled help is employed, and usually the cash outlay exceeds the cash value of the vegetables.

In Canada and the United States the wealthy classes also have their pretentious gardens and employ skilled help, and many of the middle and laboring classes have done much to decorate their home surroundings with plantings of trees, shrubs and flowers; but very little attempt has been made among the great multitude of city and country dwellers to grow even a small part of

their supply of vegetables in past years. This is no doubt largely due to the comparative cheapness with which vegetables could be purchased, lack of knowledge of the work, and a general indifference and prejudice to it.

The year 1916 was one in which the production of vegetables was much below the average in both Canada and the United States. The great world shortage of the chief staple products and the heavy demands made on America for these staples naturally increased the demand for vegetables, but with their general scarcity, owing to the short crop, prices soared to unheard of figures during the winter and spring of 1916-17. The following table will give a comparison of fair normal prices with the maximum prices secured on the largest city markets in the spring of 1917:

	Normal Wholesale Price.	Highest Wholesale Price, 1916-17.
Cabbage	$10.00 to $20.00 per ton	$150.00 to $200.00 per ton.
Onions	1.00 to 1.50 per 70 lb. bag.	8.00 to 12.00 per 70 lb. bag.
Potatoes	1.00 to 1.25 per 90 lb. bag.	4.00 to 5.00 per 90 lb. bag.

With this scarcity and consequent high prices of vegetables and with a prospective scarcity and high prices for the crop of 1917, conditions were ripe for the propaganda of the various governments and the press carried on during the early spring and summer of last year for an increase in vegetable gardening on the innumerable vacant lots in the towns and cities. The propaganda may be briefly summarized as follows:

1. Encouragement of those who had been formerly gardening to increase their efforts.
2. Inducement of those who had city or town lots or other vacant property to put it into vegetables.
3. Arrangements for those without land to secure it from those who were not in a position to use their own.
4. General supervision in the care of the lots for those who had no previous experience.

This was followed up by a press campaign to give general instruction and definite information as to what should be done, and this campaign was augmented in many of the larger cities and some of the smaller towns, with courses of lectures on various phases of gardening, with chief emphasis on the more important vegetables.

The result has been a great increase in the number of amateur gardens, and the work has almost entirely been carried on in back yard lots or on vacant land principally in the outskirts of the towns or cities. Careful estimates have been prepared for the United States, which place the value of all vegetable produce raised on the town and city vacant lots in 1917 at $100,000,000.00, and although no similar estimate has been prepared for Canada, the total would certainly run into several million dollars. This means a direct gain in food production of over ½ per cent of the total value of all food produced in Canada and the United States.

Market gardeners at first viewed this propaganda with alarm, fearing that if the movement was carried far it would mean less likelihood of them securing satisfactory sales for their produce, and at best market gardening had never brought them in, on the average, a large margin of profits. However, with a great scarcity of farm labor, high cost of all farm supplies, combined with a

rather serious shortage of freight cars during the late summer and fall of 1917, the market gardener has secured very reasonable prices for most of his produce, and has had probably one of the most satisfactory years in his history. This in spite of the fact that during part of the summer certain supplies of the less important vegetables, which can be cheaply and quickly grown, were a drug on the market and could hardly be sold at any price.

The market gardener is now beginning to look at the movement from a broader viewpoint, and believes there will be a greatly increased future demand by the city consuming population for vegetables. This is due to the more general use of fresh vegetables during the past year, their more widely advertised food value, not only actual food content, but their general palatableness and healthfulness, and to the scarcity and high price of canned vegetables, and to the fact that fresh vegetables are always more desirable than canned vegetables.

The movement will continue. The world's supply of food is even shorter to-day than a year ago, and the effort is doubly important until conditions again begin to approach normal. Many persons have gained some knowledge of gardening for the first time, and have found it healthful and even pleasant, and in time gardening may take its place with the other sports, such as golf, tennis and lawn bowling.

OTTAWA VACANT LOT GARDEN—BEETS, BEANS, AND OTHER FOOD CROPS.

City or vacant lot gardening may have an important indirect effect on farm life. The city amateur gardener has gained a partial insight into the innumerable difficulties of weather, of soil, of insects and diseases that the farmer has to contend with. They will have a greater sympathy for him, and will the better appreciate his difficulties and realize something of the effort

and cost of raising farm produce. No doubt many of these gardeners will be discouraged, but many will continue their efforts even after the present abnormal conditions have past, and some may even engage in gardening or develop some special phase of it as a business, bringing their previous business experience to bear on an undertaking that has too often been handled in an unbusinesslike way.

PROF. T. G. BUNTING.

What are we Going to do About it?

By A. G. Taylor, B.S.A.

NEVER since the poultry industry became an important part in the life of the country has it been confronted with such adverse conditions as now exist. For the past three years the price of wheat, oats, corn, and all other grains has increased steadily in value. At present the price is over 100 per cent in excess of what was previously asked for these grains. It is unnecessary to try to explain the whys and wherefores of this state of affairs. So long as the European nations are asking, yes demanding, Canadian and American foodstuffs, just so long will the price of Canadian and American grain continue to increase. While all this increase in the price of grain has been going on what has happened to the price of eggs and poultry? Have they increased in like proportion? This question can be answered in the negative without a moment's hesitation.

The question asked by farmers and poultrymen everywhere is: "What are we going to do about it?" The problem is no doubt a big one, so large in fact that every producer and consumer becomes more or less effected. From one standpoint the problem affects farmers, villagers, town people who keep poultry in back lots, breeders and fanciers, and from the other standpoint those effected are the consuming public whether residents of Canada or the European nations.

The remedies may be divided into three classes:—

First, the public must be educated as to the value of eggs and poultry meats.

Second, the producer must be protected and assured a margin of profit for his products.

Third, the consumer must be given the products at a reasonable profit to the handlers after it leaves the producers' hands.

Throughout the rural districts especially, far too little is known of the value of poultry meats. Many farmers dispose of their chickens in the late summer or fall at a price altogether too low and purchase butcher's meats at a much higher price and feel that they are profiting by so doing. Poultry meats are just as valuable from the food standpoint as beef, pork or mutton. The following table gives the chemical analysis of some of the more important animal and poultry meats:

Kind of meat.	Refuse.	Water.	Protein.	Fat.	Carbo-hydrates.	Ash.
	P.c.	P.c.	P.c.	P.c.	P.c.	P.c.
Chicken	18	55.5	17.8	7.2	—	0.9
Turkey	14.3	49.2	19.0	16.2	—	1.0
Duck	15.9	51.4	15.4	16.0	—	1.1
Goose	11.1	48.0	14.8	25.5	—	1.0
Beef (Sirloin steak)	12.8	54.0	16.5	16.1	—	0.9
Lamb chop	14.8	45.3	16.0	24.1	—	0.8
Mutton leg	18.4	51.2	15.1	14.7	—	0.8
Pork chop	19.7	41.8	13.4	24.2	—	0.8

Average Composition of Poultry and Animal Meats.
Taken from U.S. Dept. of Agri. Bulletin No. 467.

The above table shows that, taken collectively, poultry meats are higher in percent protein than are animal meats. Protein is the name commonly given to a class of substances which furnish the materials for the formation of bone, flesh, blood, etc. This constituent is absolutely essential in the human diet for without it no one could grow or even subsist. It is also the most expensive constituent in a food. Hence we naturally like to find a food rich in this substance. It is evident, therefore, that poultry meats can and should be used to a far greater extent in the daily ration of the rural population.

Knowing as we do that the Allied nations, as well as our soldiers in Europe, are demanding our beef and bacon, surely it is clear to every one that we who remain here in Canada should find substitutes for the commodities, and what substitute is better than poultry meats. Poultry meat can be produced just as cheaply and much faster than any other meat. Poultry multiply very much faster than live stock and now is when we want production, not sometime in the future. On account of the limited space on ocean steamers it is advisable to use that space for food stuffs which pack closely together, and since beef and bacon pack much better than poultry they rightly have the preference. Let us each and every one give up beef and bacon so that it may be available for overseas shipment and demand poultry meats instead.

Eggs can also be used as a substitute for meats. Professor Harcourt of the Ontario Agricultural College, quotes as follows:—"Eliminate meat from the diet of the small children. The normal child will thrive better on milk, cereals and eggs in place of meat. Eggs may also replace meat in the adult diet whenever the price per dozen goes below the cost of 1½ pounds round steak." It is a well known fact that eggs, properly prepared, are more easily digested than meats, can be used instead of meat in the daily diet, and since meats can be more easily exported to Europe eggs should be used as a substitute whenever possible.

Under the second remedy, that of protection for the producer, government assistance is necessary. The fixing of a minimum price for eggs and dressed poultry would go a long way to increase production. The establishing of cold storage houses, under government control ,in the large shipping centres would also serve as a protection to the pro-

ducer. Here eggs and dressed poultry could be shipped by the producer, stored, at moderate prices, and distributed when production was at its lowest. This would give a more even distribution of poultry products to the consuming public and at the same time return to the producer the actual value of his produce, less storage charges, which otherwise would fall into the hands of the wholesale merchant. Protection should also be afforded the producer from the standpoint of poultry feeds. The government should see to it that wheat, not suitable for milling purposes, by-products of flour mills, and corn be placed at the disposal of the poultry producers at a price which would warrant their use. Then, and then only, can the producer be expected to work with any degree of assurance.

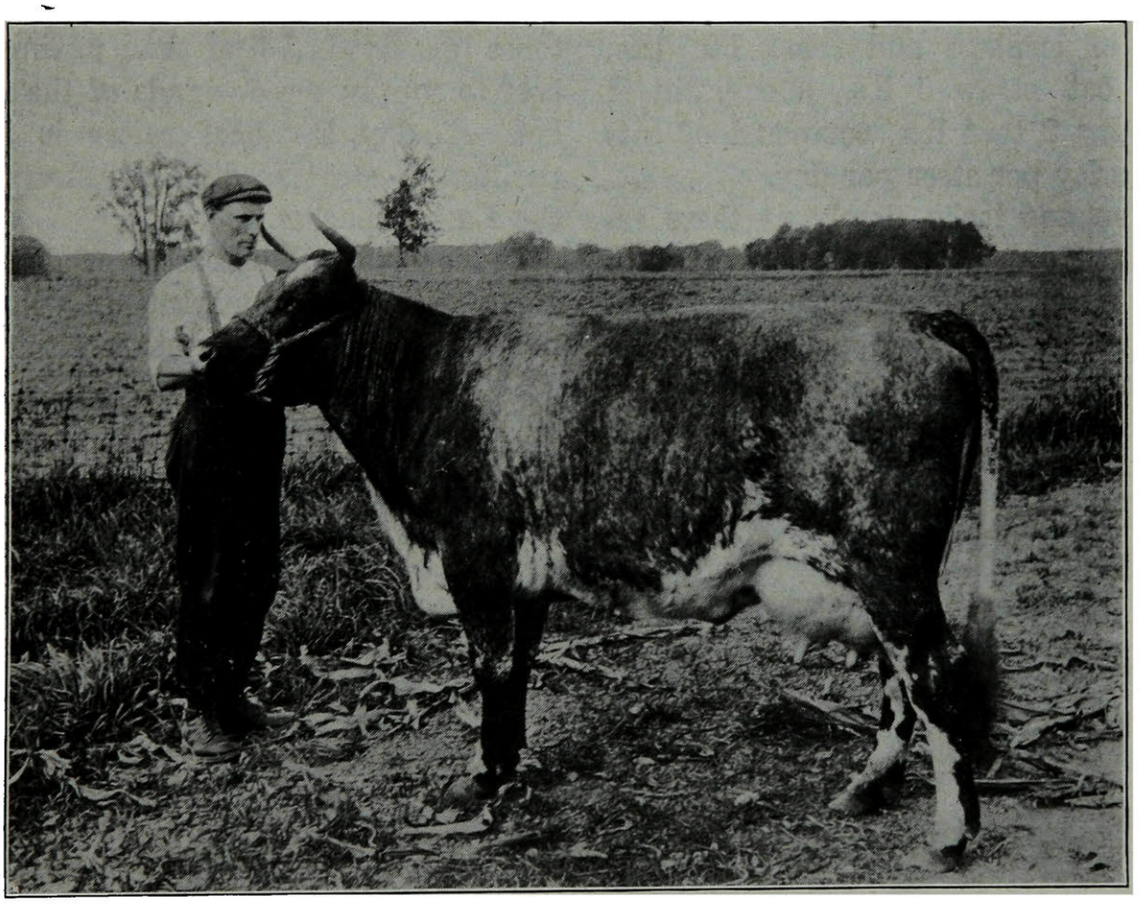
The consumer must also be protected. Unless the consumer can secure eggs and dressed poultry at a price slightly in advance of what the producer receives, the consumer is not receiving proper treatment. The commission or middle man should be allowed only a reasonable percent on his turnover and that percent should be regulated by the government and under government control. The middle man should be forced to render an honest service for a reasonable compensation. Eliminate the useless "profiteering" that pulls down the live stock and poultry industry, and there will be an abundant supply of meat for the people—all produced for profit as well as for patriotism.

The Beef Cattle Situation in Canada

TO-DAY the live stock raiser sees the end of this season about to close, and the beginning of another approaching. We sincerely hope that he is able to look back upon the past eleven months with the greatest of satisfaction. Now, if not before, is the time for him to lay his plans for the coming year. There are three great problems for him today. They are: how am I to increase my production? Am I able to winter my present stock profitably? What am I to do with my present surplus stock? These three great questions are taking up a greater proportion of the stock raisers' time than ever before, although they are three great worries of a stock raiser in normal times. Let us hope that he deals with them in the most profitable way both for his country and himself.

How am I to increase my breeding stock? Never before in the history of Canada has it been so necessary to have an increase in the amount of good breeding stock. The numbers of beef cattle in Canada are falling off with great rapidity. In the year 1910 there were 4,356,193 beef cattle in Canada, while in 1915 there were only 3,363,531, a falling off of 992,662 in five years. If the figures for the years 1917 or 1916 were attainable there is no doubt but that they would show a still greater decrease. How is this terrible situation to be remedied? It seems to me that there is only one way to solve this problem. That is, to keep all the good heifer calves, the year old and two year old heifers for breeding purposes, whether grades or pure breds. Then this can be improved on by having this

young breeding stock bred only to the best sires. There will be a shortage of beef on the markets, but even so, a shortage is preferable to a famine at any time. This shortage can be remedied to some extent by the selling of old stock, steers, and poor quality heifers in a finished state. A beef raiser who has more young breeding stock than he is able to raise should sell, not to the packer, but to another beef raiser who will be able to raise this stock to maturity. Production, not markets



should be the governing factor in the beef industry at the present time.

Am I able to winter my breeding stock profitably? The margin of profit over feed and labor for beef cattle is as great as, or greater than an average year before the war. Hence, there is the reason for disposing of breeding stock on account of the high cost of feed and labor. Of course, we recognize the fact that labor is more scarce. As a matter of fact the stock raiser who disposes of his stock now will lose money, by the disposal of roughages, by the loss in fertility to the soil, and if he ever starts in the industry again will have to buy stock at as high or higher prices. When one considers the housing of beef cattle either in Eastern or Western Canada, it is a very small item indeed. A shed that is dry and affords a good protection from the prevailing winds is all that is necessary for Western Canada. In Eastern Canada a similar shed with a partially closed front is all that is necessary. In feeding profitably the first thing one must have is a good, cheap ration, made from ready available roughages and concentrates. The ration should be concentrated enough to keep the animals in a good thriving state and putting on some gains. This is especially true of breeding stock and cows which are to freshen in the spring. Market

stock should not be allowed to fall in weight if they are expected to put on cheap quick gains in the spring. The Live Stock Branch at Ottawa have given a few good rations for winter feeding which have proven to be satisfactory. They are:

Beef Cows—Alfalfa or Clover hay 10 lbs., ensilage or roots 30 lbs., and clean oat straw 10 lbs., per cow per day.

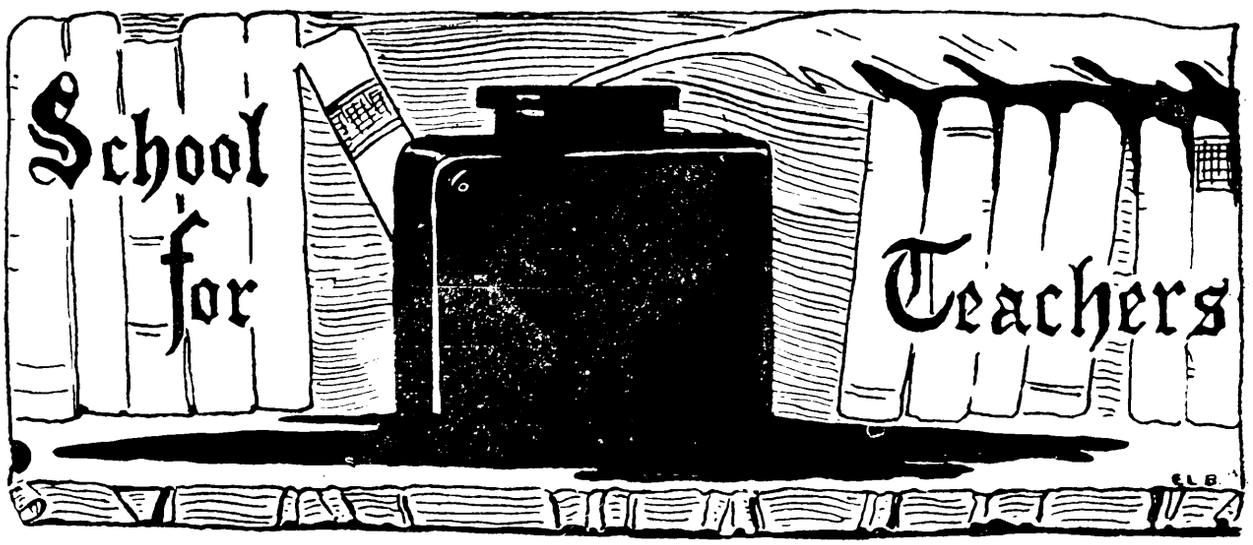
Store Cattle—Alfalfa or clover hay 10 to 12 lbs., roots 40 to 50 lbs., corn ensilage 25 to 40 lbs., or a mixture equal parts of ensilage and roots 50 lbs., clean oat straw 5 lbs., and grain if necessary 2 to 4 lbs., composed of oats and barley per steer per day.

When one looks closely at these rations, one sees that they are practically made up of roughages. They are composed of the cheapest products that a stock raiser can produce. Why not take advantage of this and winter profitably more cattle?

What am I to do with my present surplus stock? Sell it, no doubt, is the answer, if it is in good finish. Far too much of our beef goes onto the market in an unfinished state. Of course, many of these animals it would not pay to finish properly, while with the greater majority of them it would. One must not forget the facts that the margin of profit over feed and labor is as great as, or even greater than, in an average year before the war; that it takes less finished beef than unfinished beef to supply the demands of the market. To-day the beef raiser is in a position to start feeding his steers for the Easter market.

In conclusion, increased production, along with proper marketing, will improve the present live stock situation.

W. H. B., '19.



Monotones

THE child with "no ear for music" is a problem which is bound to turn up in the singing class at some time, adding not a little to the perplexity of the teacher. The monotone—a convenient misnomer, by the way, with which we need not quarrel just now—is usually a boy of slow, though not necessarily defective mental habits, who *talks* the singing with a plodding perseverance which is pathetic in its conscientiousness and highly exasperating in its effect. The teacher is placed on the horns of a dilemma. The pupil cannot be allowed to continue his weird vocal noises to the detriment of the majority; nor can he be dismissed from the class, for he is the very one who most needs the training. What is to be done with him?

The customary treatment of monotones, which has been in vogue for many years, is to bring these unfortunates to the front of the class, permitting them to try to sing only occasionally, but for the greater part of the lesson expecting them to listen to their more gifted classmates. In the hands of a skilful and tactful teacher this plan has given satisfactory results; but unless used with much discretion it is open to serious risks. It stigmatises the child, makes him self-conscious, and discourages honest effort. Even if he were not likely to be neglected in the progress of the lesson, it is questionable whether the boy will get much real help by mere listening, for what proof can the teacher demand that he is listening at all? It seems on a par with the attitude of the fond mother who forbade her son to go near the water until he was able to swim! The child must learn by actual doing, not by abstract thinking. In manual training, if a boy cuts himself by clumsily mishandling a tool, he is not prohibited from trying again and restricted merely to unguided observation of how his companions work. It is irrational to discourage well-intentioned effort, but rather it should be directed into the right channels. How to guide it is the problem.

To be candid ,it must be conceded that there is a small number of children who are born tone-deaf, exactly as there are some who are color-blind or having one of the other senses congenitally below the average standard. Fortunately the subnormally unmusical are very few.

A liberal estimate is about two per cent; but it is open to proof that even this small percentage is really hopeless, provided that the training is commenced sufficiently early.

The first thing to be done is to diagnose the child's difficulty correctly. To take a typical illustration, the case of the child who cannot correctly reproduce the pitch of a given tone, but persistently utters a vocal sound several degrees lower, is quite a common one. His difficulty is either mental or physical, or a combination of the two. Either he cannot mentally discriminate between lower and higher tones, or else he has not sufficient skill to make the necessary muscular adjustments to reproduce the pattern, or perhaps both difficulties are present.

If the child can distinguish between two tones say a fifth apart, e.g., F—C', and yet cannot correctly sing either, it is the familiar case of a lack of co-ordination between the mind and the vocal muscles. It is simply a lack of skill which can be overcome with careful practice. At first the child must learn to appreciate the merely muscular sensation of making the difference between low and high sounds in nature, imitating for instance the bark of a big and a little dog, the grunt of the sow and the squeak of the little pig, the sound of a large and that of a small bell, the *glissando* of the howling wind, and so forth. The next step is for him to be able to *sustain* a tone which he pitches naturally, lengthening the vowel sound of a word he uses, prolonging it for two, three, four, and gradually more beats in slow time. Then let him try to imitate one pattern tone, slightly higher or lower than that used immediately before. Next, try two tones about a fifth apart, e.g., D—A, F—C'. When these can be copied correctly, two tones variously related (F—A, D—G, E—G) may be given, proceeding by gradual degrees to short easy phrases.

From this typical illustration it will be seen that the monotone must have individes attention, and if the teacher is in earnest she will be more proud of the progress of the defective child than that of the clever ones, who scarcely need teaching. The daily two or three minutes before or after school should be given in a kindly way, as extra help, never as punishment. In the class, it is a good plan to place the musically weak between two of the best singers, giving them the privilege of helping him all they can. On no account should the monotone be made the object of ridicule by any member of the class. The policy must be sympathetic encouragement rather than suppression of effort.

This kind of treatment calls for all the tact, sympathy, patience, and persevering ingenuity that the teacher can command ,for the defect is sometimes so persistent that it may take even two or three years to cure. In the meantime, to obviate the unmusical effect of a "growler" in the class, the child should be led to realise that his singing is "not exactly right yet, but if he sings softly so as to be able to listen to the others, it will come right soon." If the child is young enough, perhaps not much over ten or eleven years of age, it *will* come right in the majority of cases, provided that suitable help is also given.

But in the case of an older child, maybe twelve to fourteen years of age, unless a cure can be effected speedily, the problem is different. Here the policy must be the greatest good of the greatest number. The child may be permitted only occasionally to sing softly in the simplest exercises, and, to ensure at-

tentive listening, the teacher should frequently ask him pertinent questions on the work in hand. Some of the best results in the Musical Appreciation class are obtained from children who have very little vocal skill. There is no reason why such children should not be expected to do all the more work in the way of theory, ear-tests, and so on, just because they are unable to contribute much in actual singing.

Perhaps scarcely anything else can prove so clearly the efficiency and good judgment of a teacher than the treatment of monotones, the musically deficient children who are as a rule such plodding, willing "triers."

G. A. STANTON.

The Glacial Period

(Concluded.)

By Prof. A. W. Kneeland.

IN my last article, I endeavored to show that in order to account for a tropical condition in the Frigid Zones and a frigid condition in the latitude of Philadelphia, we must look for some other explanation than that ordinarily given.

This brought us to the acknowledged fact that the whole of our solar system is but a part of another great system with its own great centre or sun, swaying its destinies, as our sun does the destinies of the bodies that revolve around it, and this other greater sun was shown to be, in all probablity, the great sun Arcturus, one thousand times the size of our own.

I shall now state some other facts regarding the sun Arcturus:

(1) It takes 104,000 years for our solar system to make one revolution around Arcturus.

(2) Our solar system was in apogee, i.e., its farthest point from Arcturus, on February 8th, 23095, B.C., a date by the way, which startlingly corresponds to that estimated by some to be about that of the Glacial Period.

(3) On the 21st of March, 1905, our solar system had entered the Arcturan spring, which will last for 18000 years, or until June 21st, 19905, A.D., when our system will enter upon the next Arcturan summer.

(4) The sun and its attendants will reach the longest and hottest of the days of the Arcturan summer on Aug. 8th, 28,905, when a tropical climate may return to polar regions, and the equatorial will be unfitted for man as he is now.

(5) On Sept. 23rd, 37,905, the Arcturan summer will end; and the long autumn of 18,000 years will begin.

(6) On Dec. 22nd, 55,905, the next Arcturan winter of 50,000 years will begin, when gradually the temperature of polar regions will fall again a period corresponding to the "Ice-age" or "Glacial Period" will set in; and all life, as we know it, will again become extinct in temperate and frigid zone.

Whether this will be accompanied by such a subsidence as would bring about the phenomena of the last ice-age or not, cannot even be conjectured.

(7) According to these calculations, Feb. 8th, 23,095 B.C., was the middle day of the last ice-age, the shortest day of the last Arcturan winter.

It is clear that certain phenomena must accompany our headlong rush towards the next Arcturan summer.

(1) There would be a slow but gradual rise in the average annual temperature of our globe.

(some say that this is already evident.)

(2) There would be a gradual falling back of the limits of our fauna and flora towards the poles.

(3) There would be a gradual disappearance of the present fauna and flora of both tropical and frigid zones.

(4) There would be the appearance or reappearance of other forms of life in all zones.

(5) There would be tremendous changes in the customs, characteristics, labors and needs of the human family, if it would not become extinct.

Before closing this somewhat long discussion, I may point out one or two facts that render acceptance of the theory of an Arcturan winter somewhat difficult. I find no difficulty in accepting the theory of the return of an Arcturan summer with a tropical climate at the poles; and there are no scientific data to render such a theory untenable; but there seems to be one fatal objection to the theory of an Arcturan winter, when frigid conditions would again prevail for the south and the temperate zone; and it is this, the amount of heat now derived from all the other suns, including Arcturus, is infinitesimal when compared with that derived our own sun; hence the loss of all the heat coming from Arcturus alone, could not affect climatic conditions very much, unless other conditions, of which we know little or nothing, should prevail.

Such other conditions are possible, and may yet be determined, when the theory as a whole, might be accepted. At least three somewhat eminent astronomers of this continent have declared their acceptance of the Arcturan theory, as here presented.

(The End.)

The Work of the Teachers

THE task that both the Model and Elementary classes have to accomplish is a strenuous one. If we sincerely wish to receive a diploma at the end of the year, there must be no neglecting of studies. Our studies are many. One subject is mathematics. The mathematics room is the place where we obtain such new and wonderful ways of teaching arithmetic. Topics are discussed about which we never have thought before. Ways of presenting difficulties to our future pupils are here expounded. In this room, also, we experience many thrills, for it is unknown when an examination will come upon us. Yet, the subject taken in this room is thought by the majority of the girls, to be one of the most interesting of our course.

Off the same hall as the mathematics room is Room 107, where we delve into that most interesting subject—namely, literature. Besides literature, we have grammar. Our professor is one of the best, but, sad to say, the mysteries of speaking and writing correct English, is not fully appreciated by most of the girls.

At the other end of the hall is the room where primary reading, composition, history and geography are discussed. Here we learn splendid me-

thods of teaching these different subjects, which, if carried out, should make us successful teachers.

But there are other subjects in the course. Let us visit the music room. This is the place where the art of teaching the children to use their vocal powers to the best advantage is taught.

If our pupils are taught by the methods which we are instructed to use, music, in the years to come, should be one of the most interesting on the curriculum.

Painting is a subject which most of the girls greatly enjoy. There seems to be some charm in dabbling in paints, which no other subject possesses. Although, occasionally a carrot looks like a potato, or a tree like a red blotch, it must be understood that it is really the fault of the brush—not of the artist.

Then on the ground floor is one of the most attractive rooms in the main building — namely, the nature study room. The subject corresponds to the room, for I am sure every one of the teachers loves nature study. Especially when, after each preceding class has examined a fameuse apple, one happens to be the last and is allowed to eat it. "First come; first served" does not apply to this case.

Even yet we have not come to the end of our studies. A very necessary subject is French. Our education would certainly be deficient without it. And with such an efficient teacher everyone should be able to "parlez" pretty fluently when they leave Macdonald.

But the art of needlework must not be forgotten. Every girl should be able to do plain sewing—if not fancy. The fundamental steps in sewing are being taught to us as we shall teach them to our classes, when all training is over, and we are teaching instead of being taught. While some are sewing, the rest work in the manual training room.

In room 148 we have a sort of family reunion. This is the only classroom in which all the three sections of the Model School are together. Here, we learn new phases of education and with the help of our teacher, often have very animated discussions. In this room, also, we study a subject, which by some is considered one of the most important—namely, hygiene.

What is considered the most important of the course, is practice teaching. One afternoon a week, we go over to the Day School, supposedly to impart knowledge to our poor little victims, although, sometimes, the children appear to know more than we do. Nevertheless, let us keep in mind the old saying, that "Practice makes perfect." Once, during our stay at Macdonald, every student is required to teach in the dreaded Assembly Hall. Besides facing a class, we stand before the more or less critical eyes of our section and the Dean. Only those who have experienced it can realize what this means to the nervous, trembling teacher. But, you say, "Are we downhearted?" "Well, I should say not."

Last, but not least, is physical training. Although some are very fond of the work, others absolutely dread the time spent three times a week in the gymnasium. Here we have to stand before thirty-five pairs of eyes and command the students as we would little children of eight or nine years. It does not sound very difficult, but if there is anyone who thinks it to be an easy task, he is invited to drop in some day and try it. Still, our teacher tries to put bright spots into our lessons, so that, I am sure, by the end of the year, we shall be much

stronger physically than we were on our arrival.

This ends the list of our studies. It is rather a long course, but a very interesting one. And if we do our part, helped as we are by our professors and teachers, not one of us should fail.

D. A. H.

Our Winter Birds

DURING the year bird-life in Canada fluctuates with changing seasons. During the warm months of late spring and early summer the number is greatest. In winter few are seen about, and not many are to be found even in the warm recesses of the woods. According to the manner of their occurrence, birds, therefore, may be classed as follows:

1. *Summer Visitants.*—This group includes those that come from the south in spring, build their nests and rear their young, and leave in early autumn. This class includes the great majority of our birds — the swallows, blackbirds, sparrows, warblers, thrushes, and flycatchers. Spring and summer would be dull indeed without the bright, cheery songs and the beautiful plumage of such summer visitants as the robin, bluebird, song sparrow, humming-bird, Baltimore oriole, and cedar waxwing. If it were not for the summer birds, insects and weeds would reign supreme, and no crops could be raised. How eager we should be to welcome and protect those winged voyagers of the air that brave the dangers of a flight of hundreds or thousands of miles, by land and by sea, that they may return to the land of their birth. "What was that sound that came on the softened air? It was the warble of the bluebird from the scraggy orchard yonder. When this is heard, then is Spring arrived."

2. *Winter Visitants.* — These birds come to us from the North in late autumn, or winter, and leave again for their northern nesting sites in the spring. These birds come to us in winter because, when the snow and ice have covered their northern home so deeply, they find it difficult to obtain food there. Here they feed on the fruits of the mountain ash, sumach, maples, conifers and other trees and shrubs, and enjoy life where the cold is not so severe or continuous.

During the winter of 1916-17 the Province of Quebec was favored with a visit from thousands of beautiful western birds, the *Evening Grosbeak*. For days and weeks they fed on the fruits of the Manitoba maple, and chattered unceasingly about their western home and the trip "down East." Evidently they had never been frightened by the guns of their enemy—man. One could approach to within a few feet of the branches where they were eating or singing. Many were captured and offered for sale in Montreal.

We often have short visits, particularly in autumn or spring, from birds that have lost their way during migration, or from those that remain a few days for rest and food, before proceeding on their journey. Many of the warblers, the beautiful Fox Sparrow and others remain with us for a few days before proceeding to their resting places in the far North. The Black

pall Warbler nests in Alaska or other Arctic regions, and spends the winter months in southern South America, thus travelling a distance of over 2,000 miles twice a year. Few other birds make such a long migration flight.

The following are the more or less common winter vistants in Quebec:

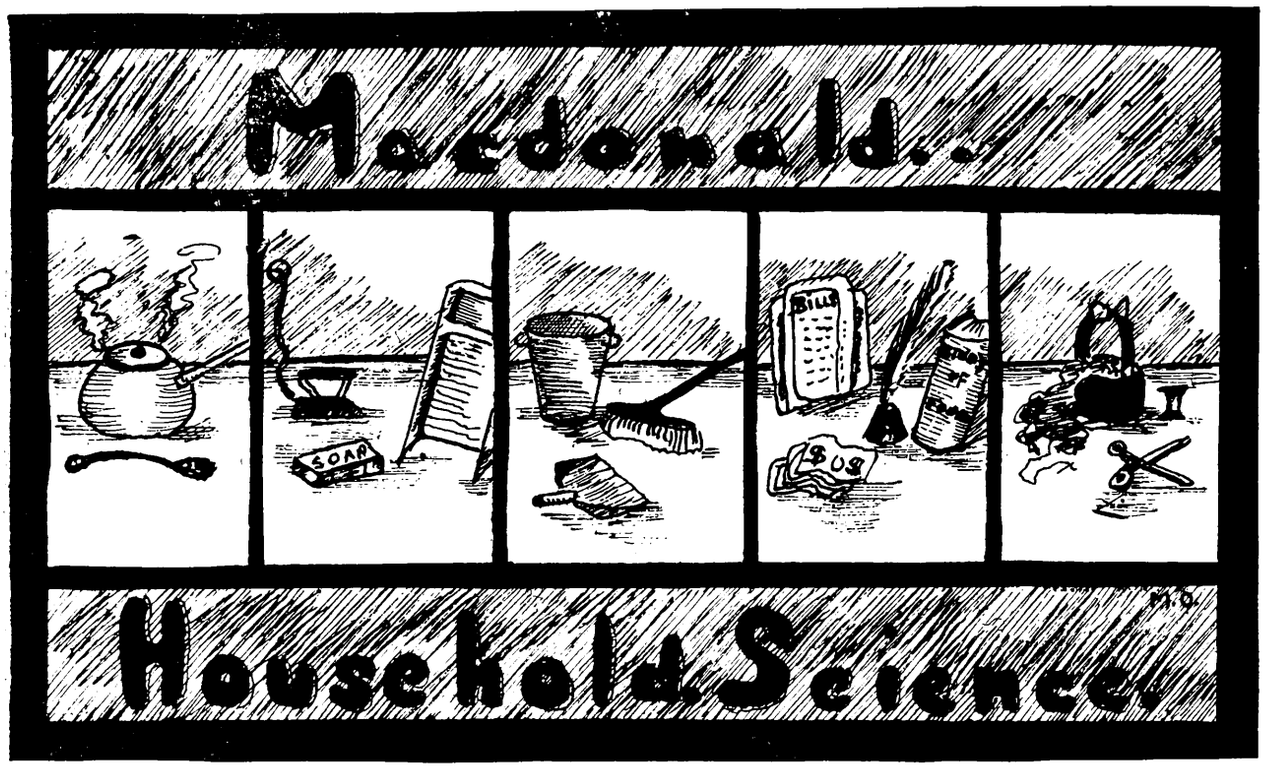
1.—American Goshawk.
2.—American Rough-legged Hawk.
3.—Great Gray Owl.
4.—Screech Owl.
5.—Richardson Owl.
6.—Snowy Owl.
7.—American Hawk Owl.
8.—Horned Lark.
9.—Evening Grosbeak.
10.—Pine Grosbeak.
11.—American Crossbill.
12.—White-winged Crossbill.
13.—Redpall.
14.—Pine Siskin.
15.—Snowflake or Snowbird.
16.—Lapland Long Spur.
17.—Brown Creeper.
18.—Tree Sparrow.
19.—Northern Strike.
20.—Hudsonian Chickadee.

3. *Permanent Residents.*—This group includes those birds that may be found in one locality at any time throughout the year. During winter, with few exceptions, such as the Black-capped Chickadee, Downy Woodpecker, House Sparrow, Blue Jay, and Nuthatcher, they keep away from human habitations and remain in the woods or other sheltered spots. In some sections of Eastern Canada are crow, purple finch, crow blackbird, and occasionally the robin and the American goldfinch, remain all winter. In the vicinity of Montreal the crow quite often remains. One spent the winter of 1915-16 on Macdonald College grounds. The more common permanent residents in Quebec are:

1.—Ruffed Grouse or Partridge
2.—Spruce Grouse.
3.—American Goshawk (occasional)
4.—Red-shouldered Hawk.
5.—Barred Owl.
6.—Saw-whet Owl.
7.—Great Horned Owl.
8.—Hairy Woodpecker.
9.—Downy Woodpecker.
10.—Arctic Three-toed Woodpecker.
11.—American Three-toed Woodpecker.
12.—Blue Jay.
13.—Canada Jay or Moosebird.
14.—Northern Raven (rare).
15.—Crow (occasional).
16.—House or English Sparrow (too common).
17.—White-breasted Nuthatch.
18.—Red-breasted Nuthatch.
19.—Black-capped Chicadee.
20.—Purple Finch (occasional).

"We shall see more clearly in time that when we get the higher, finer, and more enduring life (to which all must grow), we shall have the greatest possible inducement to give the trees, plants, *birds*, animals, and all other expressions of the Infinite, their lives and their fullest liberty. We shall be compelled to love them. What we really love we canot abuse, kill, or enslave."

D. W. HAMILTON,
Dept. of Nature Study.



Conservation

BEFORE it is possible for a housewife to help in the conserving of food it is necessary for her to realize the situation and to educate herself concerning her country's needs that she may make herself a real factor in relieving the present crisis.

It is the little things which mount to great things. How many families stop at wasting one slice of bread per week? Whereas, suppose 1,000,000 families in Canada waste one slice of bread per week, and that a one pound loaf of white bread cuts into fourteen slices, each weighing 1.14 ounces, it is clear the weekly total waste is 1,140,000 ozs., or 71,250 one-pound loaves, or enough to feed one Canadian division of 21,500 men for three and one-third days, or ten meals for each man. Any waste of bread is *absolutely inexcusable* when there are so many ways of using stale bread as:—

1.—In the making of various kinds of puddings.

2.—In the coating of croquettes, fish, steaks, etc.

3.—In thickening sauces and soups in place of white flour.

4.—In making toast, croutons and stuffing for poultry.

All waste must be eliminated before other remedies such as substitution can be effectual.

If only once a week a one-pound loaf of bread made from corn, rye, oatmeal, is substituted for the one-pound white loaf ,the saving of wheat flour would be more astonishing than the saving of the one slice of bread per week.

What has been said of wheat applies to a greater or lesser extent to many other foods required overseas, for example, bacon and beef. Statistics show that during the first six weeks of meatless days in public eating houses of Canada there was a saving of 33 tons of bacon and 100 tons of beef.

How many of us can truthfully complain that this method of helping to feed

the men at the front has seriously interfered with our joy of living?

We are told by authorities of nutritional research that three well-balanced meals of wholesome food meet the requirements of the body, so why waste time in having extra meals prepared and eated when food, time and labor are all so valuable to our country. To enter into the question of impaired health would take us into another phase of the conservation question, it is sufficient to say that physicians state that excessive feeding is the root of too many aliments.—MISS SMITH.

A Win-the-War Campaign as Applied to Meats

TO students in Household Science, at Macdonald College, the meat demonstration, each year, given by its able and well informed lecturer in that subject, Prof. Barton, proves a most valuable one, and particularly so in a year like that of 1917-18, when all thoughts and energies, apart from studies, must be directed toward helping to win the war.

When meat is the subject under discussion, Professor Barton not only directs our thoughts into the right channels, but he enables us to reason cause and effect. Because of the enlightening information he gives us, he enables us to know not only what we may choose, and why, for our tables under normal conditions, and wherein lies the necessity for immediate increase of production, and decrease of consumption, of beef and pork, at present.

One morning, the students received an invitation to go to the Horticultural Building, and there found a number of carcasses hung ready for inspection and comparison; with the lecturer waiting to give them much useful information.

Touching lightly upon the trade process, he spoke of the country road as giving the bulk of meat obtained for wholesale markets, of which there are four important ones—at Montreal, Toronto, Winnipeg, and Calgary. From these great centres, meat is shipped to the retail shops of our country.

In the past there has been little exportation of meat from Canada; while up to the time of the outbreak of war, a busy import trade was carried on between Canada and the Argentine, from whose haciendas, and broad green pastures, grass fed cattle were brought in large numbers to our markets. Owing to the lack of shipping facilities, however, in the last two years this supply has been stopped, and Canada now faces a new and grave situation.

Our men at the front, and our allies in this titanic fight against wrong and oppression, must be fed, and much of their food must be meat—beef and pork. We ,of Canada, of both sexes, who cannot fight, must therefore see to it that our country increases in production to the limit of its capacity and encourage by every means in our power, the substitution of the needed commodities for exportation, eliminating as far as possible beef and pork from our tables till the want is supplied overseas.

The efficient method was outlined by which contaminated meats were kept off the markets. Those countries, which before the war, purchased limited supplies of meat from us, insisted upon an official federal inspection; therefore in all our large abattoirs this system pre-

vails, supplemented by a municipal inspection. In addition to these the Jewish markets have a rigid inspection of all carcasses. Unfortunately in country places, as yet there is no inspection of meats, but the lecturer suggested the hope that soon this might be looked for; the expense to be borne by the producers and municipalities.

To many terms used in trade, Professor Barton gave their true meaning, such as "prime" referring to the best meat obtainable, and "carcass" to the dressed article—in the case of pork the dressed article, plus the head and feet. He said that housekeepers should refuse to buy meat sold in an untidy shop, lacking pure atmospheric surroundings, as one presided over by an untidy looking salesman, contending that the first requisites of a butcher were cleanliness and tidiness.

Passing on, he touched upon the shape and size of the carcass of beef, as being an indication of age and quality, viz.: In weight, age is indicated by an unduly large front, out of proportion; young beef never having a large frontal expansion. He gave the range of prime beef as being, 500——600 lbs. per carcass.

1. Anything under this weight known as baby beef.

2. Above this weight, all front, no hind, old "buffalo" beef, e.g., bull-beef has a great frontal development.

3. Steer beef, with a good normal development of muscle over chest and neck, is known as prime western beef, so-called because it is readily obtained from Toronto, and points west.

In color:—

(1) Fat; a deep yellow color indicates old age, especially in cow beef.

(2) Muscular tissue; the best is pinkish. Old beef is dark, ranging to wine color.

When the term "conditioned" is applied, it means that the muscular tissue, or lean, is well covered by fat: and if the kidney and ribs are well "ripened," or covered, then the meat is likely to be tender.

The lecturer drew the attention of his audience to the common fault prevailing among housekeepers, of ignoring cheap cuts of meat, and suggested as economical cuts, those so much used as delicacies in some countries, the heart, tail and tongue of beef.

Discussing the hind quarter, he said buyers should always insist upon having on the hind quarter at least two ribs, which she has paid for.

The first cuts on this quarter are suitable for soup-making, the next ones, the round and rump, may be made deliciously tender by a process of long slow cooking. These cuts range in price from 5 to 25 cents per lb. The aitch bone, although of an ungainly appearance, is one of the best meats on the carcass. The sirloin, porter-house and loin end are very fine cuts ranging from 35—48 cents per lb., while in direct juxtaposition are the flank and the brisket, excellent for stews, at 18 cents per lb.

In the front quarter the choice cut is the rib roast; it should never weigh less than 7 lbs. It cuts, cooks, and sells to the best advantage. The blade is a good, cheap roast but weighs about 10 lbs.; then there are various other cuts, cheap and economical.

Passing from beef, the lecturer again illustrated, by showing actual carcasses, different grades of lamb. Classifying the latter, he spoke of "hot-house lambs," as fall-born lambs kept in a warm place and well fed; Winter "spring lamb" as being a strictly cold storage product. The buying of Spring born lambs ,in Spring, was character-

ized as being wasteful and extravagant, because they were taken away from pasture when the grass was at its best. The lamb allowed to grow all summer, till November, was referred to as the best and most economical one.

These remarks closed an interesting lecture. A short time afterward, however, in speaking to the same students, Professor Barton again emphasized the great need of increasing production, particularly of the hog, and he suggested that we might do as our sisters across the border have been asked to do by Mr. Hoover.

Contending that a realization of the grave situation of the meat shortage in Canada might assist us in adjusting our habits of mind, he asked that every suburban home might have a pig as a domestic pet, in its back-yard—it being as desirable to keep as the average dog. At first the idea seemed impossible, but the war is teaching us to view life in its true proportions, and knowing that this is a definite way in which we can help to do our part, we are beginning to see the practicability of pig-raising, even on a small scale.

May we not then consider these questions seriously, and not only do what we can by individual effort, but encourage others to emulate our example, by carrying out these excellent suggestions—being ready, serene and fearlessly to move forward, and do our part as "stay-at-homers" in helping to win the war in a practical fashion.—Household Science.

Homemakers' Alphabet

A is for Alda, the best sport born,
Who has a tooth pulled every Saturday morn.

B is for Becky, her last name is Davis,
At the pool in the basement she's ready to save us.

C is for Chottie, who has so much hair,
She arrives down for breakfast just after the prayer.

D is for Dodo, otherwise Lu,
Who sleeps when she can, and in Chemistry too.

E is for Edith, a sharp girl is she,
Who acted as parson at our wedding spree.

F is for Frances, our class president,
on her qualifications what need to comment.

G is for Gladys, who started to "Bawl"
When she saw a mouse peep out from the wall.

H is for Helen, a slim girl was she,
Until she came out to old M.A.C.

I don't know a girl, but to fill in a pause
I'll mention "Efficiency," that awful clause.

J is for Jean, a rosy cheeked miss,
Who when dressed as a man, we all wanted to kiss.

K is for Kitchen, that's where we all shine
In making steam puddings and doughnuts divine.

L is for Lang, our sweet Dorothea,
What's in those fat letters, we have no idea.

M is for Marguerite, we hope you'll see through it,
There's something to rhyme here—but we's not going to do it.

N is for Norah, who knits all the time,
And turns out socks, which are very fine.

O is for Olive—a pickle is she.
And a jack-of-all-trades she seems to be.

P is for Patterson, who owns the canned tunes,
The strains of which echo throughout all our rooms.

Q stands for the girls who from Quebec City come,
They help to keep things at Mac. on the hum.

R is for raging, that's how we all feel,
When we're sent to the Library to read a great deal.

S is for Susie, a good cook is she,
The making of cookies is her speciality.

T is for Taylor, our champion athlete,
She can stand just as well on her head as her feet.

U is for you, who ever you be,
Who are left out of this science parody.

V is for Vans, there are two in our course,
Who pound in our heads, bugs and reactions by force.

W is for Warnock, she dances divinely,
On Wednesday nights, who can two-step so finely.

X is for Exit, it's now time to quit,
So we'll take the hint, and make our exit.

:: Faculty Items ::

PRINCIPAL Harrison spent a week end at Petawawa during the hunting season, and was successful in bagging some delicious venison.

It is a pleasure to record that Dean Laird is again able to do a full day's work at the College.

In a letter to Mr. Wright, Miss Fisher confesses that a sight of the Magazine renders her quite homesick for Macdonald, and makes her realize how the boys in France look forward to word from the College. She is very busy with instructional and outside work in Columbia University.

We regret to report that Mrs. A. H. MacLennan, wife of the former lecturer in Horticulture, died on November 18th at Malone, N.Y.

We are informed that Mr. Harry Baird, a brother of Mrs. W. S. Blair (wife of our first Professor of Horticulture), and of Whylie Baird, B.S.A. ('12), died a few months ago as the result of a fall from a horse. Mr. Baird was employed in the Poultry Department early in the history of the College.

Our sympathy is extended to Mrs. N. C. MacFarlane, whose father died at Park Corners, P.E.I., on December 19th.

Miss Smith has resigned her position in the School of Household Science, and is at present at her home in Truro, N.S.

Miss Barbara DuBois, B.S., has been appointed Instructor in Household Science. She is a graduate of Columbia University, and at the time of her appointment was employed by the United States Food Conservation Department as a County Agent in Wayne County, New York.

Miss Mabel Price, of the Macdonald College High School, has been granted leave of absence on account of the illness and subsequent death of her mother. Miss Beatrice Clark is filling her place in the School during her absence.

Mr. Duporte has gone home to St. Kitts, B.W.I., to recuperate from an illness. This is Mr. Duporte's first visit to his native island since he came North as a student seven years ago.

Mr. Sadler has been obliged to give up work for a time on account of ill health. He is visiting relatives in New Jersey.

In an interesting letter to Dr. Harrison, Lt. Oliver Craik, M.M., of the 87th Canadian Battalion, relates the story of his mishap at Passchendaele. On November 13th he was sharing a shell hole with two sergeants and a private when a shell burst amongst them, killing his three companions and wounding him in the head, hand and leg. When he wrote Lt. Craik was in a hospital in England, and was "never more cheerful and happy." He longed for a Macdonald College Magazine, and for a month or two in Canada, but said he would then be willing to go back to the front any time. Mr. Craik

will be remembered as a former teacher in the High School.

When last heard from, Dr. Savage was serving in a stationary veterinary hospital at Havre.

Mr. W. J. Tawse, formerly Assistant in Horticulture, was admitted to the Second General Hospital, London, on November 19th, suffering from a gunshot wound in the eye. Mr. Tawse was a member of the 64th Draft, which left Canada last May. He had been at the front since September 23rd.

At the November meeting of the Macdonald College Club, Dr. MacFarlane gave an interesting talk on the history of Ste. Anne de Bellevue and its environs. Prof. Carrie Derrick was to speak at the December meeting, but was prevented by an illness. On one day's notice, Dr. Harrison kindly filled the gap with an entertaining address on Petawawa. Mrs. Hartnell contributed to the pleasure of the evening by singing.

On Wednesday evening, November 19th, the Macdonald College Rifle Club held its Annual Christmas Shooting Competition at the Rifle Range, Main Building. Throughout the evening enthusiasm and the spirit of rivalry prevailed, due in part to the turkey, goose, duck and chicken that were on exhibit awaiting the winners. The winners and their aggregate scores, out of a possible 55 points, were as follows:

1st—Dr. Lynde	46
2nd—E. H. Jones	45.1
3rd—E. A. Lods	40.9
4th—P. I. Bryce	40.3
5th—E. M. Ricker	39.

Under Dr. Lynde's editorship the College is now issuing a Weekly Press Bulletin for the use of the weekly newspapers of the Province

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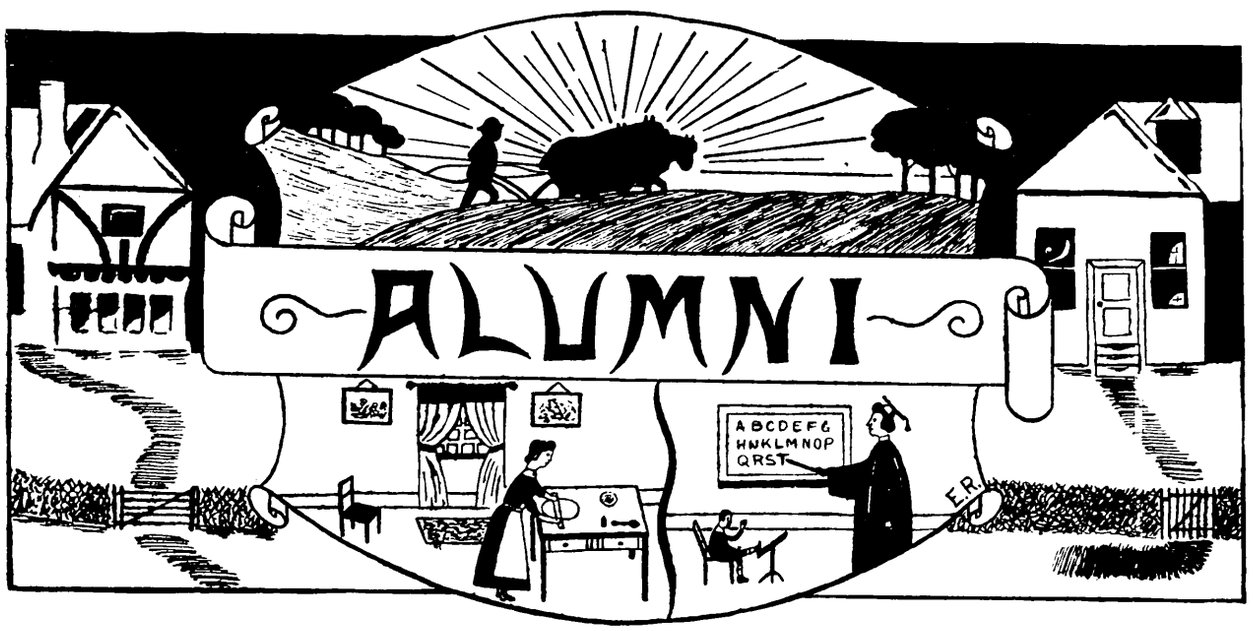


Agricultural Undergraduates

ANOTHER hero has in all probability laid down his life upon the plains of Flanders. A letter from Rev. J. A. MacFarlane, gives the following news concerning his son:—"John Reid MacFarlane enlisted as a private on March 15, 1916, in the 139th Battalion, recruited at Coburg, Ont. In July of the same year, he was offered a sergeancy. This he refused, as it was his fixed determination to remain a private. He went overseas in September 1916, and was transferred to the 87th Canadian Grenadier Guards, going to France Nov. 1916. He was a bomber, and went through heavy fighting on the Somme, at Vimy Ridge, and at Lens, where he was reported 'Missing,' on August 15, 1917."

Letters from soldiers give us the information that when last seen, he was shot in the throat, and bleeding badly, but still pressing on. His comrades buried a body, which they could not positively identify, but which they all considered to be John MacFarlane.

John MacFarlane took his High School work in Quebec City, graduating from the High School as Dux, taking three medals, the gold medal in science, as well as the medals in literature and French. He took also the Turnbull Prize, and the first prize for the essay of the year.

He entered the Agricultural course of Macdonald College in 1910. Ill-health seriously interfered with his progress, but he led his class in his Sophomore year, and was near to the top in his third year, though quite unwell.

For the sake of regaining physical vigor before completing his course, he went farming in 1913. But as soon as he was physically fit, he enlisted."

There is still in the breasts of all those who knew him, the mingled hope that he may yet return. We genuinely mourn for him, and sympathize with the family who have lost so good and worthy a son.

John J. Dodd, '18, was gassed and wounded by the explosion of a gas shell at Lens on August 24, 1917. He spent some time in a hospital in France, but later was removed to Whiston Infirmary, England. When last heard from,

we are glad to say, he had almost recovered. In fact, he expected soon to leave for Seaford Camp, where he was to be one of the physical instructors.

Lieut. A. R. Jones, '17, we are sorry to learn, has been severely wounded in the legs. Just about a year ago he was wounded on the Somme by a bullet in the elbow, which detained him in the hospital from November, 1916, until the spring of this year, when he was instructed to take a Cadet course for his commission. He passed his examination with honors. A rather remarkable thing is that he entered the hospital both last year and this year on his birthday, or within a day or two, at least.

Jones was one of the most earnest and thorough men of his year. We wish him a speedy recovery, and a safe return to his Alma Mater.

Year '17 will remember their old class mate, H. C. Bailey, who carried off all the trophies on their first Sports' Day. Bailey was one of the first of his year to leave the campus and join the colors, and he has been singularly fortunate in dodging shells in the many hot engagements in which he has taken part. In July, he was invalided to England with fever.

A deep sense of loss has come over the Senior Year at the passing of their fellow-student, W. D. Sherar, but they take pride in the fact he who died a hero's death was one of them.

Pte. W. D. Sherar was killed in action while proceeding to the trenches, August 5, 1917. His major, in writing to his parents, states: "Although only with us a very short time, your son had all of the qualities of a splendid soldier, and I can assure you his loss is sadly felt by all of us, especially his close friends, of whom he had many. Canada has lost still another good soldier, and all of us a very brave comrade." He sacrificed all for his King and country. Macdonald College students, both past and present, unite in tendering their heartfelt sympathy to Sherar's parents and friends.

Among those invalided home to Canada on the Scandinavian on June 23, 1917, was Charlie Wilson, the famous hockey player of '18.

Cecil Bradford, '17, who has had a series of sicknesses due to exposure in Flanders, is now working in the Orderly Room of No. 2 Canadian Command Depot, Hastings, England.

Pat Ashby, '18, whose humour added that necessary spice to many an otherwise somewhat prosaic meal, was wounded on October 21, 1917, by a bomb from a German aeroplane. Pat joined the University Overseas Company of McGill early in the spring of 1915, and has been "On Active Service" ever since. Although he has gone through some very thrilling experiences under heavy fire, this is the first time he has been wounded. He is now in a hospital in Devonshire, and progressing favorably.

Lieut. E. G. B. Reid, writes: "I am attached to the 80th Company as transfer officer, so you will see that my training at Macdonald is being of some service, especially when I tell you that I have six horses down with pneumonia, due, no doubt, to exposure. We have had quite a lot of cold rain of late, and our horses are not used to a picket line.

We are in a real nice part of France. The people are quite friendly and try to give us every aid possible, but I make a very poor attempt at talking French."

The following extract was taken from a letter of a former M.A.C. student (now in France) to a younger brother at home, and contains very sensible advice from a senior to a younger student:

"So you are going to Woodstock for the last year of your preparatory course. I am glad of that. I know you will enjoy life in a residential school, and it will do you good. No doubt you are there by now, and may be finding it a little lonesome at first; that will soon wear off, however. Please pardon me giving you a little advice as I do it in all sincerity. Take part in every phase of life; it will keep you hustling to do it, but the busier you are, the better. Get your time doped out where it is now done for you by your teachers. Have something, work or play, coming and going all the time. As for athletics, take part in all games and sports as they come along with the seasons, but try to specialize in some one game or sport, and get that down to perfection. That was one of my mistakes. I played all games a little bit, but could never be sure of a place on the team representing any one of them. Do not forget that the year will go by like lightning, and you will then be looking back on it with regret or delight. You are there for development, physical, mental and moral, so use every opportunity that presents itself.

Teachers

Myrtle Duffy, Class '15-'16, is making good progress in her school in Hudson Heights.

Constance Jackson, Class '11-'12, is teaching in Victoria School, Quebec.

Mollie McLellan, '10-'11, is teaching in Girls' High School, Quebec.

Lulu Perrier, '15-'16, is doing her bit for social good in Lachine High School, Lachine.

Florence Wilkinson, Class '11-'12, Alga Lemesieurer, '13-'14, and Thorborg Dale, '16-'17, are bringing the pupils of the Girls' High School, Quebec, up to the Macdonald standards.

Lillian Pounds and Eileen Brown, both of Class '14-'15, are helping in the training of the young, in Victoria School, Quebec.

Miriam Clarke, Class '14-'15, is teaching in St. George's School, Quebec.

Emma Moffat, Class '11-'12, is doing good work in Victoria School, Quebec.

Gladys Shrimpton, Class '15-'16, is teaching in Roslyn School, Montreal.

Carry Moore, Class '15-'16 is doing her best in Fairmont School, Montreal.

Ora Porter, Class '14-'15, is making excellent progress in Kensington School, Montreal.

Iva M. F. Neil, '15-'16, is training the children in the way they should go, in Bedford, Quebec.

Ethel Booth, Class '14-'15, is teaching in Hatley.

Florence Martin, Class '15-'16, is teaching in Coaticook.

Frances Remick, Class '13-'14, is teaching in Scotstown.

Mary Horne, Class '16-'17, is teaching in Danville, while Gladys Booth, of the same year is teaching in Mount Royal School, Montreal.

Alta Campbell and Laura Young, both of Class '16-'17 are benefitting Kensington School with their knowledge acquired at Macdonald.

Mildred England, Class '15-'16, is teaching in Edward VII., Montreal.

Madge Travers, Class '14-'15, is teaching in Verdun.

Rena McNair, Class '15-'16, is doing excellent work in Black Cape.

Bessie Burton, Class '15-'16 is teaching in Gaspe Peninsula.

Mona Henderson and Marian Watson, both of Class '15-'16, are teaching in Richmond West, and Earl Grey.

Clara Tyrell, Elem. T. '12-'13, taught for several years in Thetford Mines, and is now back at Macdonald taking the Model.

Monica Philbrick, '16-'17, is teaching in Clarenceville.

Frances Kinnear, Class '14-'15, is teaching in Aberdeen School, Montreal.

Annie French, Class '15-'16, is teaching in Alexandria School, Montreal.

Gladys Duffy, with Catherine Napier and Edna MacLeod, both of Class '15-'16, are teaching in Gould.

Doris and Mildred Rothera, Class '14-'15, are teaching in Quebec.

Celia Linsay, Class '14-'15, has decided that her calling is not teaching, and is now in a bank in Montreal.

Isabel Binning and Hazel Schoolcraft, both of Class '16-'17, are teaching in Edward VII.

School of Household Science

Nessie Allan and Elsie Woodhouse, Homemakers '17, are doing social service work at the Soldiers' Wives' League, instructing the children in kindergarten work.

Ruth Reynolds, Homemaker '17, is taking the Physical Education course at R.V.C. Ruth is ably fitted for this work, and will without doubt come through her course with splendid success.

Miss Sarah MacGregor, Homemaker '16, of New Glasgow, N.S., recently made a short visit to the College.

Miss Edith Wadleigh, Class '14, has the position of dietition in a military convalescent hospital in Edmonton.

Miss Jennie Fraser, Class '12, Supervisor of the Women's Institutes of Nova Scotia, recently spent a few days at the college.

Miss Retta Richards, Homemaker '17, is putting her Homemaker's course into practice, by keeping house for her brother in Ottawa.

Miss Effie Robinson, Class '14, is dietition in a woman's hospital in Montreal.

Miss Marjorie Sinclair, Homemaker '17, is helping to steer the Ship of State into the harbor of Financial Success. She is working for the Government at Ottawa as a business employee.

Miss Isabel Sutherland, Homemaker '13, is spending her time very profitably doing Red Cross work at her home in New Glasgow, N.S.

Mrs. Anglin, née Ethel Wathen, Class '14, is at present living in Windsor, N.S.

Miss Anna White, President of the Homemaker Class '17, is spending the winter at her home in Ottawa.

Miss Gladys Rutherford, Homemaker '17, had an operation on her throat a short time ago, but is now, we are glad to say, feeling quite herself again.

Her happy-go-lucky cousin, Jean, is doing work at the Belmont Park Red Cross Headquarters.

Miss Minta Duff, Class '14, is living at home in Shawville.

Miss Mary Rough, Homemaker '17, is keeping house for her brother at Sutton, Que.

Mrs. Percy Bisson, née Freda Robinson, Class '14, is now living in Edmonton, Alta.

Miss Winifred Hodge, Class '14, is head dietition at Macdonald College.

Macdonald College Agricultural Alumni Association

Class '11.

C. Sweet, who is Representative of the Dominion Seed Branch for Saskatchewan and Alberta, attended a conference of the officers of that branch in Ottawa in November. While in the East he and Mrs. Sweet took the opportunity of visiting his home in the Eastern Townships, and dropped off at Ste. Anne's for a short while

Class '12.

F. S. Browne, Assistant Agrostologist at the Central Experimental Farm has been actively engaged in the immergency root seed propaganda instituted by that Division during the past summer. He reports a busy season, and has spent a great deal of his time travelling in the root growing provinces in connection with that work.

Class '13.

Mr J. K. King, who is connected with the Live Stock Branch of the Dominion, is at present in British Columbia in the interests of the goat industry in that province.

Word has reached here that Mr. and Mrs. W. G. Gibson, of Indian Head, have been honored by the arrival of a little Gibson.

Lieut. L. D. McClintock was wounded March 23rd, 1917 ,while fighting in France. After spending some months in a hospital in England, he had recovered sufficiently to take a three months' course in signalling, and resumed his duties in France in the late summer. On October 26th, however, he was again returned to the hospital in England suffering from an old fracture of the jaw.

B. B. Richardson is again on Canadian soil, and is managing the O'Brien Farms, near Renfrew, Ontario. From what we can learn, he has a big proposition on hand and appears to be making things go.

E. M. Duporte, who has been engaged as Assistant in Biology at Macdonald College, has had to discontinue work for some time. After being confined to bed for some five weeks, he has now recovered sufficiently to enable him to sail for his home at St. Kitts, B.W.I., where he will spend several months before returning to resume his duties at the college.

D. E. Lothian was wounded for the third time early in the spring. Although a bullet passed but one inch from his heart, he has again taken his place in the fighting line. He feels now as if the Hun could not kill him, and in any case proposes to give him another chance "as long as he can have one too."

Class '14.

P. R. Cowan has been appointed as Assistant on the Cereal Division of Central Experimental Farm, his duties to consist of experimental work in baking, in connection with the breeding of varieties of wheat. Jimmy is especially qualified for this line of work as he graduated in the Cereal Option, and has since been largely engaged in laboratory work. He commenced his new duties on December the first.

We are sorry to have to report a rather tardy recovery from his wounds in the case of our trusty friend Lieut. F. L. Drayton. However, a new method of treatment is being applied, and we all hope it will have the desired result, and that he will soon be able to be around among us again.

The Military Service Act is taking its toll of the remaining members of Class '14, and among them is our worthy Pre-

sident, H. J. M. Fiske, who has been allowed until January 1st to prepare himself for service.

We were favored with a short visit from C. H. Hodge, of Shawville, recently. "Mary" reports everything doing nicely in his corner of the Province.

It is with deep regret that we call attention to the notice elsewhere in this issue, of the death, as result of wounds received on the battlefield, of our classmate and friend, B. T. Reed. A man loved and respected by all who knew him, and with a character which would stand the broadest light of day, he will be much missed by friends and parents alike. To the latter we extend our deepest sympathy.

R. I. Hamilton, who until recently was with the Canadian Army Veterinary Corps in France, was wounded in the right shoulder on November 4th. Last reports were that he was getting along nicely and expected to be fit for service again soon. His address is, No. 48554, 14th Battalion, Army Post Office, London, England.

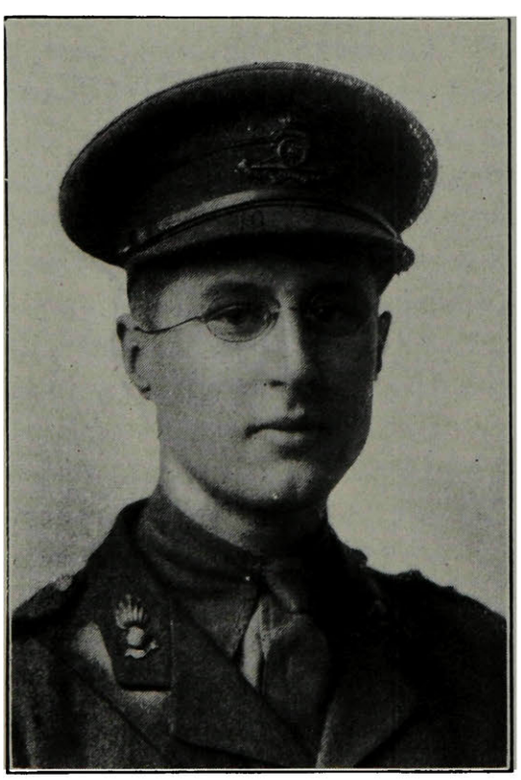
Class '17.

J. D. Newton is farming at Plaisance, Que.

IN MEMORIAM

In France, Nov. 12th, 1917, Lieut. B. T. Reed, B.S.A., 66th Battery, Canadian Field Artillery. Died of Wounds. Graduated in Cereal Husbandry, Macdonald College, 1914.

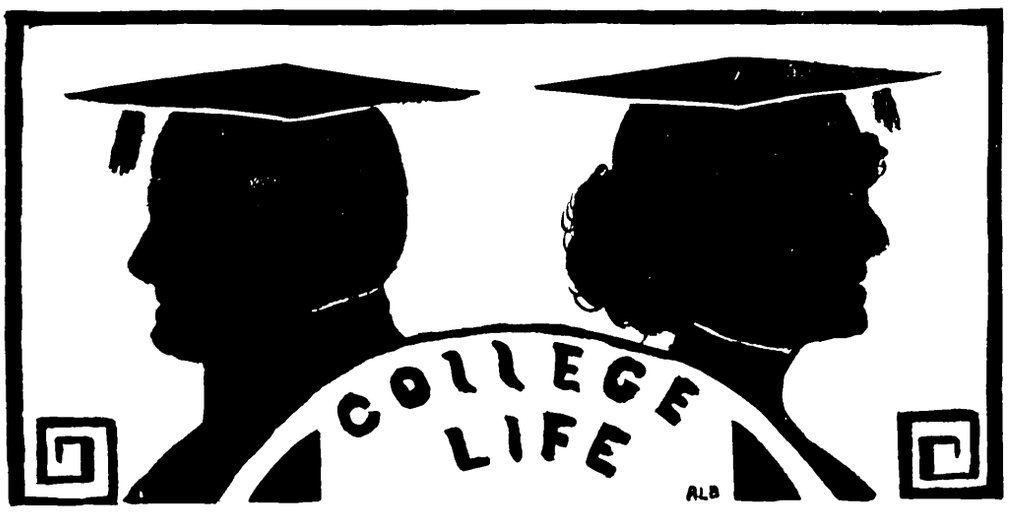
To the roll of those immortal men, who have sacrificed the hopes of future years and given their lives for



justice and liberty, has been added the name of another hero. The Roll of Honour has been enriched, but the world is poorer for the death of him who has added lustre to its scroll. Exalted in principle, steadfast yet gentle in nature, B. T. Reed typified in life the principles for which he died.

The first shot of the war sounded for him a clear call which he was unable to answer before the autumn of 1915. That he might go to the front he underwent a severe optical operation, and then immediately entered the school for non-commissioned officers in artillery. From there he was sent to the officers' training course, on the successful completion of which he enlisted as a private in the 66th Montreal Battery. Quickly advancing to the post of sergeant-major, he was promoted to a lieutenancy in August, 1916, and in that position accompanied his battery to England and the firing line.

Without brothers and bound to his home and parents by golden chords of sympathy and love, only a few of us, who were privileged to know somewhat of the unusual nature of these ties, can appreciate the nobleness of the sacrifice and the greatness of the renunciation by family and son. To his parents and sisters we, his fellow-students, teachers and friends, would express our sorrow and deep sympathy at the loss of him who represented the highest in filial duty and affection. No sympathy, however deep or keen, can asuage the grief or allay the sorrow of his passing, but we can say with great truth, his death was not in vain. To us he will forever represent all that was clean in life, all that was noble in death, and will remain an inspiration toward high ideals and unselfish patriotism.



MEETING OF MACDONALD LITERARY AND DEBATING SOCIETY.

ON Tuesday, November 13, the first regular meeting of the College Literary and Debating Society was held in the Assembly Hall.

There was a fairly large attendance, with students from the School of Household Science and the School of Teachers predominating.

The programme was mainly a musical one, and all things considered, the usual high standard of college talent bids fair to be satisfactorily maintained.

The contributions, all of which were encored, were as follows:

Organ Solo—Mr. Stanton.

Piano Duet—Miss Van Wart and Mr. Kelsall.

Recitation—Miss Friedman.

Organ Solo—Mr. Stanton.

Vocal Solo—Mrs. McMahon.

Violin Solo—Mr. Henry.

Mr. E. Boulden, the president, conducted the proceedings.

SENIOR-JUNIOR INTERCLASS DEBATE.

The Senior-Junior inter-class debate for the year was held in the Assembly Hall on the evening of December 6th. The subject for debate was "Resolved that the establishment of maximum prices for all products sold in Canada during the war is undesirable." The affirmative was upheld by Mr. Arnold and Mr. Kelsall of the Senior Class, while Mr. Henry, and Mr. Kutzman upheld the negative side for the Juniors. The subject proved to be an exceedingly popular one, and was keenly and well debated. The decision of the judges was unanimous in favor of the affirmative. The official score was 70 points for the affirmative, and 58 points for the negative side. The criticism rendered by Prof. Barton in announcing the decision was much appreciated by all interested.

Other features of the evening's entertainment was an organ selection and college songs. After rendering the decision of the judges, Prof. Barton in a brief address made a significant appeal for the "Patriotic Pig," which at present, and in the future, must take an important place in the family circle if the allied demands for meat are to be met.

EXECUTIVE OF THE LITERARY AND DEBATING SOCIETY.

MACDONALD COLLEGE C.O.T.C.

THE first field day was held Wednesday, November 14, which provided a practical demonstration in Advanced Guard formation and in scouting and protection. In marching from the campus to Senneville Grove, No. 1 Platoon formed the vanguard, throwing out its points, followed by the advanced party ,which in turn was followed by the supports, which dropped connecting files to the main guard, which was composed of No. 2 Platoon. The main feature of the afternoon was the scouting and patrolling in Senneville Grove, No. 1 Platoon was organized into scouting groups in an effort to break through the strong line held by the sentry groups of No. 2 Platoon. Owing to the thickly-wooded nature of the Grove, with its heavy undergrowth, the line held for some time, and many scouts were captured. Finally, however, by feinting tactics, No. 2 Sentry Group, on the extreme right, was taken by surprise and several enemy scouts gained access to the rear of the line. Subsequently the Company was rallied and marched back to the College, the operations proving a decided success, and arousing considerable enthusiasm among the members of the corps.

COMPANY ORDERS

by

MAJOR F. C. HARRISON,

C. O. Macdonald College, C.O.T.C.

Nov. 27th, 1917.

Appointments and Promotions.

The following appointments and promotions are hereby approved and confirmed:

No. 1 Platoon.

To act as Platoon Sergeant, with rank of Corporal, Pte. W. A. Maw.

To be No. 1 Section Commander, as Lance-Corporal, Pte. A. W. Peterson.

To be No. 2 Section Commander, as Lance-Corporal, Pte. R. A. Derick.

To assist in musketry instruction, as Lance-Corporal, Pte. A. W. Birch.

M. A. JULL, Lieut.
Act. Adj. M.C.C.O.T.C.

Extended Order in Attack.

On Wednesday, November 28th, the Company parade took the form of a practical demonstration in extended order in the attack. Previous to the manoeuvres the fundamental principles of infantry in the attack in extended order formation were discussed, emphasis being laid upon the necessity of taking advantage of cover during the advance, and of getting up and down quickly in making the short rushes. Also, the demonstrational value of the manoeuvres was discussed, both from the standpoint of the defending and the attacking forces.

Part of No. 2 Platoon was posted to defend the small grove near the quarry adjoining the campus. No. 1 Platoon and the remainder of No. 2 Platoon constituted the attacking forces, the former to make a frontal attack, and the latter to make a flank attack on the grove, the actual method of attack being kept in secrecy from the defence force . The two attacks, being timed to take place simultaneously, were well carried out, but unfortunately the intended "secret" attack from the flank did not result in a surprise for the defence, as the flanking unit was observed moving to its place of attack. In regard to the frontal attack, firing should have been opened a little before it actually did; the rushes were well carried out, although there was a tendency to crowd in as the attackers neared their objective. The frontal and flank assaults were made simultaneously and

after considerable resistance on the part of the defenders, the grove was captured.

The defence force was well posted, with the exception of the reserves, who were placed in a position where they could be of but little service, and where they could be easily cut off from the main force.

In general, the different units performed well, and as a demonstration the scheme proved a success. The "capture" of the grove was made possible because no allowance was made for casualties as the attacking forces advanced over the open country, which provided but little protection. In reality the grove could be defended by a small force against a very large attacking force.

Y. W. C. A.

The work of our association has been most successful this fall. Prayer Services for our soldiers are held every evening, immediately after supper in the music-room of our residence. These services are conducted by the Y.W.C.A. committee and bible-class leaders in turn.

Such services are so necessary at such a period of the world's history when the demands for prayer are many. Those of us who have our loved ones at the front, in prison camps, in air or on the sea, feel more keenly and understand the need of prayer. There is need also that we pray for the bereaved and heart-sore fathers and mothers, sisters and brothers, and not only for peace but also that the regular work at home may be carried on effectively during the strain, so that present evil forces may be combatted, and so that we may not be found wanting when our men return.

Bible Class meetings are held every two weeks on Sunday nights after church. All the girls who are leaders of the Bible Study groups show great enthusiasm over the work, and many discussions play an important part at the meetings.

Rev. Mr. MacLeod meets the Bible Class leaders and helpers in the Reception Room every other Monday afternoon at five o'clock. He, in his usual interesting way, makes these meetings alive with interest, and the spirit of service in God's work, so that we leave the meeting with an eagerness to impart the lessons we have learnt to our little Bible Groups.

DR. REXFORD'S LECTURE.

On Thursday evening, Nov. 22nd, Rev. Principal Rexford, of Montreal, gave a lecture in the Assembly Hall, on "The Challenge of the Child to the Community." A large crowd was present from both residences, contrary to Dr. Rexford's expectations, as he came from the city with the idea that he would only speak to the "teachers"; however, his lecture must have been equally interesting to all parties.

In speaking of the war and the influence of our schools on it, Dr. Rexford said that "the boys at the front" were the specimens—the finished product of our schools. What could we learn from them about our schools? From the disadvantages and mistakes, etc., of this war, what can we recognize as lacking in our schools?

Dr. Rexford went on to say that some of us, as teachers, may be at the present time looking into the faces of our future generals, statesmen, judges, prominent lawyers and other such great men. What a great

responsibility rests on our shoulders! So, as we look on the children who are before us, we learn that character is the most important asset to the child, beyond that—to the community; and looking still farther beyond, the greatest asset to the city, and to the nation.

An Arab, when he wants to make a very solemn oath, usually says, 'By the word of an Englishman!" This shows what character means to a nation. Germany has thrown her character to the winds. Character cannot be built without a moral and religious sanction, in order to cultivate the stronger motives, which stand for strong character. If there is a God in the universe, we stand in relation to that God. We also stand in relation to one another; not because it concerns the community but because we have a responsibility to God, and because we are all of the same Father.

Experience has shown that the stories in good literature, are the strongest incentives of character. This material is the best we have to inspire children to imbibe the highest motives to make character. The greatest nations in character are the greatest in literature.

Dr. Rexford also said that the teacher is the model. The teacher must get on the right side of the children and exercise this influence of hers in the right way, as the children are real hero-worshippers; they usually look upon their teacher as a hero or heroine. The lives of women are more consistent than those of men: so their influence is the greatest in a community.

Prayer is another necessary factor in character building. The daily prayers in the school-room should not be lax. They should be of such a kind as to inspire interest and reverence in the children, so as to mould character properly; to make a good foundation.

After a few more remarks emphasizing the importance of character building in our schools, Dr. Rexford closed. Miss Philp, Hon. Vice-President, thanked Dr. Rexford on behalf of the Association, and the audience, for his most interesting address.

Then the meeting was brought to a close by the singing of the National Anthem.

THE MACDONALD COLLEGE HOME ECONOMICS CLUB.

THE Home Economics Club of Macdonald College has been organized for the purpose of making the School of Household Science conversant with all subjects that are of general interest to women; to create an active interest in the various student activities of the college; and to encourage social intercourse among its members.

There is every indication that the club will be successful in its attempt to make this year, 1917, a banner one in its history.

As a branch of that active organization, the Macdonald College Literary and Debating Society, it hopes to add its quota; and it also plans to do some work of a patriotic nature.

There are meetings held by the Club every second week for the purpose of developing latent talent, and to stimulate and foster a good College spirit so necessary to the life of any College. These meetings are in addition to the regular fortnightly meetings of the club, at which, from time to time, ad-

dresses will be delivered by lecturers of note.

An interesting programme has been arranged, part of which reads as follows:

Nov. 21.—"College Life for Women; What it Should do for Them." Miss Hurlbatt, Dean of Royal Victoria College, Montreal.

Dec. 4.—"On the Art of Public Speaking." Dr. MacFarlane, Professor of English, School of Agriculture, Macdonald College.

Dec. 9.—"Eugenics." Dr. Lochead, Professor of Biology, Macdonald College.

Jan. 6.—"Social Service." Miss Helen Reid, Convenor of Patriotic Fund, Montreal.

Jan. 20.—"Cereals as Foods." Dr. Chas. Saunders, Dominion Cerealist, Ottawa.

Feb. 8.—"Work Among the Refugee Children in France." Miss Cameron, Royal Victoria College, Montreal.

Feb. 27.—"Extension work in Quebec Province." Mrs. N. C. MacFarlane, Macdonald College, Que.

March 12.—"The Wonder of Life." Dr. Lochead, Professor of Biology, Macdonald College.

March 28.—Dr. Harrison, Principal of Macdonald College.

In the near future there is prospect of the club being linked up with the Home Economics Association of America. The thought of this affiliation is gratifying to the members of the club, for they realize that in being recognized by this nation-wide body of eminent men and women, as a social and educational factor in this country, they have taken a long step toward making themselves worthy of their college motto, "Mastery for Service."

Not only so, but they will have gone far toward attaining a high plane of usefulness as women; and when they go out from Macdonald College they will go equipped with a knowledge and experience fitting them to cope with the bigger and broader problems of living in an able, brave and cheerful manner; the spirit of the words of their favorite College song planted deep in their hearts and minds:

"Strong as the Ottawa past thee doth flow,
Forth from thy portals shall thy children go:
Never forgetting thee, or thy good fame,
Macdonald! We'll conquer thro' force of thy name!"

A meeting of the Home Economics Club was held on Wednesday ,the 21st November, 1917, in Room 207, Main Building, at 6.45 p.m. Miss Meldrum, the President of the club, introduced the lecturer of the evening—Miss Hurlbatt of the Royal Victoria College.

The address, "College Life for Women, and What it Should Do for them." was most interesting and thoroughly enjoyed by all present.

At the close of the address, the Honorary President, Miss Hill, in a few well chosen words, thanked the speaker for her interesting talk on a subject of such great importance at this time.

The meeting was then adjourned.

FOOD CONSERVATION.

The Household Science girls were invited to attend a meeting of the Woman's Club on Wednesday, November 28, in the Union Church.

The meeting was addressed by Mrs. Muldrew, who formerly held the position of matron of the Women's Residence.

"Food Conservation" was the sub-

EXECUTIVE OF THE Y. M. C. A.

ject of the address and Mrs. Muldrew brought before us the necessity of using the more perishable foods in order to save the staple products for overseas consumption, and explained some of the actions of the Food Controller.

Mrs. Muldrew had much to say in praise of the Pledge Cards that are now seen in so many homes and stated that they had indeed been an impetus for the saving of many pounds of beef, bacon and wheat.

As the subject was one of great interest, and especially helpful to the Science girls, the afternoon was much appreciated by all.

SCIENCE AT THE VICTORY LOAN PARADE.

IT'S nice to get up in the morning and see a Victory Loan Parade—but it's nicer to stay in bed when it's only half-past five and the window's open and the lights aren't on. To say the least of it, the prospect wasn't as pleasing as it had seemed when we arranged it all the night before. To be—or not to be?

But kind room mates to shut the window and to enthuse over what a wonderful day it's going to be, changes the complexion of things. With quiet haste—ask those who were trying to sleep about this—we bundled into our clothes, crept downstairs and *didn't* forget to sign the register. Then over the first snow of the season we ran, and barely caught the train, although we had only started to get ready an hour and a half before. It's no cinch, though, to put a veil on in the dark—and to be sure your hat is at the proper angle.

We arrived in the city without mishap. Once we were given quite a turn. The train began to back up at Beaconsfield, and kept on backing till we all thought we must have signed in the wrong place or something equally as disastrous. However, there was no real cause for worry as the train soon righted itself and we were spared any more palpitations.

With one accord we turned our footsteps towards Childs, and now you see why we had risen in the cold gloom of the early dawn and caught that train. There's no need to go into details about the number of calorie portions of bacon, chops and griddle cakes we consumed. Sufficient it is to say we turned not empty away.

In order to get there early and avoid the rush, we next started for the docks to see the submarine. This was the one disappointment of the day. Although we were all armed with our more or less doubtfully acquired Victory Bond pins, and although we were among the very first to get to the gates, yet we were unable to get any further. We were told it was necessary to be accompanied by a soldier and, alas, we had no soldier. What wouldn't we have given for a sight of even a freshman member of the Macdonald C.O.T.C. So we had to turn sadly away and retrace our footsteps towards St. Catherine Street.

As we rounded a corner we met something else making its way up from the harbor, and this was no less a thing than the Tank itself. If it had not been easily recognizable from its many pictures we would hardly have been able to realize that this was really one of those tanks which have played such a wonderful part in the war, and was now the chief attraction of the Victory Loan Parade. Our excitement got the better of us, and ten ordinarily demure, well-conducted students of Household Science chased up the middle of Montreal

streets after that tank, followed by a cosmopolitan bunch of little ragamuffins, which so increased in numbers that by the time we reached Victoria Square we found ourselves at the head of a good-sized parade. The possibility of some of the powers-that-be of Macdonald catching a horrified sight of their trusted students in a position like this, made us retreat decently to the pavement.

We were able to get a splendid view of the whole parade at Dominion Square. When ten o'clock came the chimes of St. George's Cathedral started up "God Save the King," and the whistle of the C.P.R. beat an original kind of tatoo, which by stretching the imagination could have been turned into "God Save the King" also. Amidst all this racket the parade filed by, led off by the Mounted Police, then the United States Marines, French returned soldiers, and our own returned men. We cheered them lustily until we found we were the only ones raising our voices, so we stopped—until the Kilties passed. Practically every institution in the city of Montreal was represented by either a float or a body of men or women. Some of the floats were really beautiful; others were pathetic. The latter probably disposed of the more bonds, and that was the purpose of the whole parade.

When the parade was over, the few who were left of the original bunch went to our class president's home, where one by one the lost, strayed or stolen were gathered in. After a never-to-be-forgotten lunch, some necessary shopping and a visit to the Mrs. Wright's of Montreal (Page and shaw's), we caught the 5.15 homward bound.

The train was filled with Teachers, Scientists and Aggies. Despite the unwonted excitement of the day to those accustomed to the quiet farm life of Mac, everyone was feeling as gay as a lark, and th cars rang with college songs and yells. Between each selection, high-class French pasteries were served, and thus reinforced, we were able to keep up the jollity until we were once again under the warm roof of Macdonald. Then, with the register safely signed, we knew we had come to the end of a perfect day.

COLLEGE DANCE.

The first of a series of dances, for the purpose of raising funds in order to pay for the parcels to be sent to the Macdonald men at the front, was held in the gymnasium of the men's residence on Saturday evening, November 17th. Owing to the small number of men students in residence, it was considered advisable to divide the women students into three groups, so that the numbers would be more or less even.

The Gym. was neatly decorated with flags, pennants, etc., and a very artistic moon added much to the attractiveness of the display. The dance was not formal, although a few evening dresses and dress suits were worn. The programme was well arranged, with a good variety of dances. The one-steps and waltzes proved most popular, the "Paul Jones," was also much appreciated, and several couples seemed to thoroughly enjoy the "Barn Dance." The pianist, Miss Oliver, played excellently, and even those who claimed to be beginners danced like experts. The Punch, "a la Domestic Science," was much appreciated by all. Miss Russell very kindly acted as chaperon for the evening. The committee deserve much credit for the success of the evening, and the prospects are good for many pleasant times to follow.

SECOND DANCE.

It was December the first! There was a tense air of excitement running through the Girls' Residence. About the corridors there were groups of two's and three's discussing something which lent a sparkle to their eyes and color to their cheeks. What was it?

Why, the second Patriotic Dance, held in order to raise money to send Christmas boxes to the undergraduates of Macdonald College at the front.

Sharply at the appointed time, 7 o'clock, an eager faced throng of girls met in the lower hall. Another bunch of girls, with quite a different expression on their faces watched them as they passed downstairs, on their way to the Men's Building. There they were received by Miss Setwart, Miss McCallum and Mr. Arnold.

In a very short time every one's programme was full, and the dance commenced with music that lent wings to one's feet. Soon the dance was in full swing, and by the looks on all faces, it was being thoroughly enjoyed. The punch, served in the hall between dances, was veritable ambrosia to the thirsty dancers. Great was the sorrow of all when the pleasurable evening came to an end.

The girls who attended the first dance claimed that that was the best that could be, but we who were at the second are very much unconvinced.

THE GIRLS' MASQUE.

Milton wrote one Shakespeare wrote many. A worthy subject it is for a master-hand.

The humbler writer of these few hackneyed phrases, however, asks of the long-suffering reader nothing more than a little strain of his precious eyesight and a small part of his attention and patience. This is only if he has the interest of the fair—and also, dark—damsels of Macdonald College really at heart.

"To come down to hard tacks," as the slang expression goes, the "Macdonaldites" had a "whale" of a time at a masquerade dance given on Saturday night, November 24. It was very exclusive—only ladies of the faculty, and of the student body, too, we hope—being present.

We are sure that many a masculine eye was cast long and longingly towards that part of the women's residence in which the gymnasium is situated.

What a sight there was. Could the walls of that gymnasium speak, what a tale they could tell, and what queer sights they saw! The impression that first met the eye was a confused one—a perfect riot of color—in fact, all colors in and out of the rainbow. Then gradually things began to assert themselves; and one saw them as they were—at least, as they pretended they were. The aforesaid walls were bedecked tastefully and pleasingly in a color scheme of yellow and white, with a "spicy" garniture of pennants. Chrysanthemums carried out the color scheme, while the refreshment booth was also in yellow and white. Trust us to pick out a good, hard working committee. The booth, not the committee, was piled with apples that made your mouth water. All you did was to stretch forth your hand and help yourself to as many as you thought you could get away with without having nightmare as a result.

As for the costumes—words fail me to describe them to their full advantage.

Gypsies there were, peasant girls, Quakers, ghosts, Japanese girls, and even a Chinaman, Red Cross nurses

enough to make a fuss over a small army; and—shall we whisper it, almost real-looking men, including several soldiers (not tin). Some knew not whence they had sprung, nor what they were called. Suffice it to say that they were there.

While the writer was gazing around entranced, not knowing where to look first, in walked the queerest-looking pair imaginable. Their bodies were composed almost entirely of head—a black, mirth-inspiring head. A quarrelsome pair they were, bumping each other continually during the grand march. Vague, hazy stories came back to the beholder of Tweedle-dee and Tweedle-dum.

Then there came along a sight that would quicken the interest of the lover of the ukalele and the dreamy Hawaiian tunes. The Hawaiian lady in question had planned out everything cleverly to the smallest detail. She kept her identity unknown to the point where she was awarded the first prize. She even claimed that she was talking Hawaiian, and as no one present claimed to be an expert linguist, she was not contradicted.

The winner of the second prize was the fat, old, motherly Aunt Samantha.

She and her husband, Josiah, performed a dance with the assistance of an old umbrella. This could not be called classic; but it did, in our vernacular, "bring down the house." The stunt deservedly won the first prize, namely, an "all-day sucker." Another very good idea was a miniature parade. Uncle Sam, Britain, Canada, and others were in it, bearing the sign, "Our Little Victory Loan."

"Robin Hood" was good, and so were many others.

The "men" had a great time all to themselves. There was a very energetic officer present, who insisted upon drilling raw recruits, willy-nilly. It is doubtful whether they would have come in Class A or not.

Dancing there was, to a large extent. Couples went whirling and bumping about to the music of a fox trot or a moonlight waltz in the yellow and white ball room, "ahem," in which even the moon was yellow. Think of it!

The whole "shine" broke up with college songs, lusty cheers for the judges, and the guests, and finally, with the last ear-splitting Macdonald College yell of "Failt Ye, Failt Ye, Failt Ye, Clan Donald."

THE EXCHANGE.

The Exchange Department is an important one in these times of unsettled affairs, and it deals with the sending of our news to the various parts of the Dominion and to a good many places in the United States. The folks at the various colleges and universities that receive our Macdonald news will see what we are doing and how we are doing our part for our people across the seas and also for those at home.

To-day is a time of new ideas and by exchanging our thoughts with the various people we gain new thoughts, and that is what we want, something to help improve what we already have.

Our list of exchanges is not very large but still not small. Up to the present time we have received a few exchanges from our sister colleges: "The O.A.C. Review"; "The University Monthly"; "The King's College Record"; and "The Alumnus of the Iowa State College."

The Masquerade

"With sounds mysterious as the roar
Of billows on a distant shore,"
Was heard a murmuring more and more;
Strange forms were flitting the College thru,
They were going to the Carnival, this we knew.

The guests they gathered in gay costume,
And greeted their hostess, we presume,
Who, stately and fair, in the dim-lit room,
Exclaimed as each entered, "Oh, maiden dear,
Who comes so witch-like and weirdly here?"

Who is the lady with golden hair,
Attended by all her pages there?
The group, it has a regal air—
Old Uncle Sam, with glances fond,
Marches along with the Victory Bond.

From far and near the witches came:
The Maginty twins with loud acclaim;
The Follies, and Rokin of ancient fame.
While the stately dames of '73
Tripped thru 'Sir Roger' right merrily.
As thru the maze of the measure they flew,
The musician ceased playing. Full well she knew

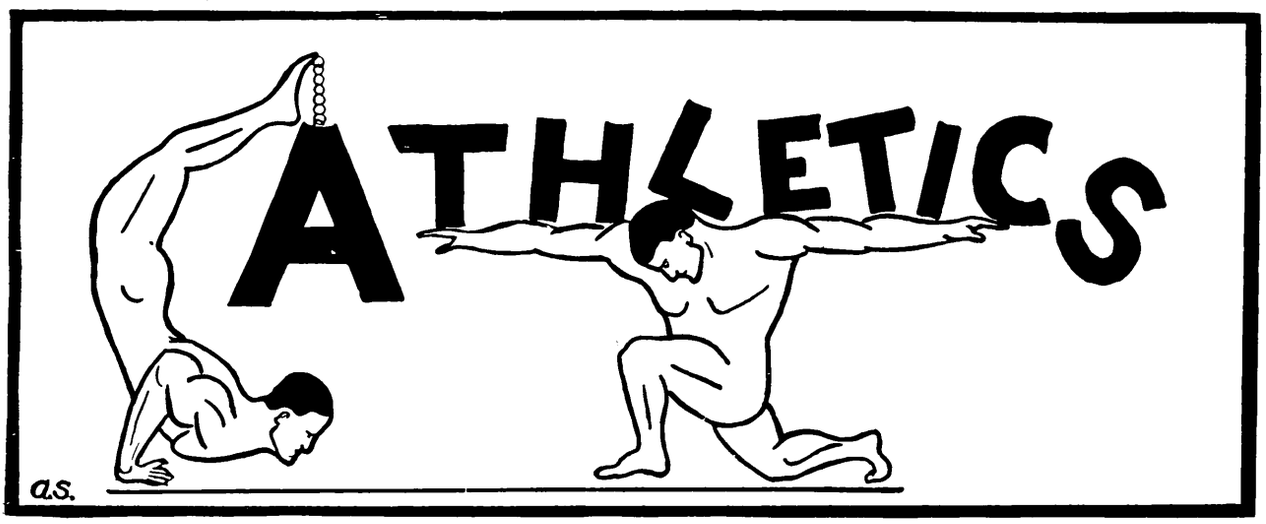
'Twas time for the dancers to plan, and to do,
Some remarkable feat, on glad mischief bent,
To add to the evening's merriment.

"Oh come out, fair people, come hasten along."
At once a wee maiden sped out from the throng,
She was with Uncle Sam, who never does wrong.
"But whom have we here, with face unseen,
Dancing so nimbly?" — 'Tis an Hawaiian Queen.

A pair there was who tried to spoon;
Then Lieut. Boulden in her platoon
Drilled her men by the light of the Moon.
While Aunt Samantha and Uncle Josh
Came all the way from St. Louis, "by gosh!"

But the pale moon from under a cloud then did peep.
And some were lamenting, "Oh, late hours we keep!
'Tis time, my gay comrades, for rest and for sleep."
So hand clasped in hand, to the tune of "Lang Syne"
The farewells they said, and all filed out in line.

—Mary Meldrum, Sci. '18.



ATHLETICS at Macdonald are going on with more spirit than was anticipated by all at the outset of the season. A number of very exciting as well as interesting games have been played between the different classes, and also two between the college and the staff teams in basket-ball and baseball. Two intercollegiate games were also played at Macdonald, one being in soccer football with the Theological students of McGill and one in basket-ball with the students from Bishop's College Athletics is one feature of college life that is looked forward to for a greater part of our enjoyment while at college, and should be upheld by all concerned. Everybody should attend the games and arouse a good spirit among the rooters as well as the players.

SOCCER FOOTBALL.

On November 10th a very interesting game of soccer football was played at Macdonald between the McGill Theological College students and the Macdonald students. The day was cold and a strong westerly wind was blowing across the campus, although the ground was in fine condition for the game.

The toss up for goals went to the Theologs, who played the first half with the wind. The Theologs showed some very good individual playing, but did not show much superiority as a team, as the score shows. Our fellows had never played a game before together, and did remarkably well. The ball stayed close to the Macdonald goal most of the first half, but no goal was scored.

The second half was more evenly played. A few of the players, such as Kinsman with Arnold's boots on, caused much laughter, as well as excitement, when being laid out. The game was a very interesting and exciting one all through. The game was finished without any scoring for either side, but if judged by points on the playing we would have to give the Theologs the credit.

VOLLEY BALL.

The volley ball season opened on Tuesday evening, November 13th, with a match between the married and single men of the staff. The single men had the advantage of numbers on their team, but this in reality proved a disadvantage in playing.

The playing was not as spectacular as many of last year's games, since neither of the teams had opportunities for previous practice. Perhaps the strongest feature of the game was the

ATHLETICS EXECUTIVE.

even distribution of the married men during the play.

Three games were played. The scores stood: 21—11; 19—21; and 21—6 for the married and single men respectively.

BASKETBALL.

The opening game of the season was played on Thursday evening, November 15th, between the Seniors and the Sophomores. Never did the spectators get more for their money than at this game. Neither of the teams was in perfect shape, but they certainly put up a good game. In the first half the Seniors played fast and made most of the scores; as all our friend Gilbert had to do was to stand under the basket unmolested and drop them in. For a while it looked as if the poor Sophs. would be swept right off their feet.

The second half started off a little more hopefully for the Sophs., who scored a point even before the Seniors had a good look at the ball. From this time on Class '20 seemed to go right on about their business, stopping for nothing, except the brick wall. One shot followed on another. Pesner and Peterson relieved the spectators when they swept down the floor and slipped it in without meeting oposition. This was repeated three or four times, and the score started soaring. The game was held up at eight o'clock, much to our disappointment. The final score was 15—24 in favor of the Sophomores.

FRESHMEN-SOPHOMORE BASKETBALL.

A very exciting game of basketball was played between the Freshmen and Sophomores on Thursday evening, November 29th. Both teams showed good work all through the game. The first score was made by the Freshmen, due to a foul play on the part of the Sophs. This started the ball a-rolling. The Sophomores were soon warmed up and kept the score keeper busy. The fans in the gallery were kept in amazement a great part of the time, as the majority of them were rooting for the Freshmen. The first half finished with a score of 11—3 in favor of the Sophomores.

The second half was much faster, and with more combination by the Sophomores, ending with a score of 22—8 in the Sophomores' favor.

MACDONALD vs. BISHOP'S COLLEGE.

A very interesting intercollegiate game of basketball was played on Saturday afternoon, November 24, between Bishop's College and Macdonald College, in the boy's gymnasium. The Bishop's players made a very attractive appearance on the floor, before the game especially, even enough to make all onlookers feel sorry for the Macdonald team.

The game was called at 3 p.m., and all looked on with great anxiety to see who was to make the first score. Bishop's made the first score by a free throw, due to an error of Macdonald's. The game was played in three parts; one ten minute period and two fifteen minute periods. The playing in the first period was not fast. Both teams lacked combination, and the scores made were due to fouling on the part of a couple of players. Time was called with a score of 3—1 in Bishop's favor.

The second period started off with some pep. on Macdonald's part, and some good individual playing was displayed. Pesner, of the Macdonald team, was an outstanding player. The second

period finished with 8—5 in Macdonald's favor.

The third and last period was very fast, both teams showing some good playing. Bishop's played good combination, but Macdonald's speed checked their plays. Both teams brought up their scores, making a finish with 23—13 in favor of Macdonald. No doubt the boys would have done better had the fair ladies of the other residence been present. Their happy laughter and encouraging rooting was missed immensely by all, and especially the players.

INDOOR BASEBALL.

The first scheduled game of indoor baseball this season, held November 20, at least demonstrated the efficiency of the staff's team to the college, when the latter went down to defeat 14—1. The line up was as follows, for College: Derick, c.; Hodge, p.; Ness, 1b., Dobie, 3b.; Clarke, s.s.: Reid, r.f., Scannell, c.f.; Baldwin, l.f. For Staff, A. R. Ness, c.; Summerby, p.; Gorham and Jull, s.s.; Ricker, 1b.; J. H. McOuat, 3b.; Bryce, r.f.; McLaurin, c.f.; Moyan, l.f. The effective battery work of Summerby and Ness was a feature of the game, and it is not surprising that so few hits were recorded against them. The Staff team started the merry-go-round in the second inning, and five runs were piled up before the smoke of battle died away; these were added to from time to time, and it was not until the latter innings that the College started to hold them down. The steady playing of Hodge, and the aggressiveness of Clarke were the outstanding features of College's playing. College started a promising rally in the ninth, but Clarke was the only man successful in scoring a run. It was a game not marked by many spectacular plays excepting a good double play, Hodge to Ness. Summerby amused the crowd by tagging Jull at second.

Girls' Athletics

SWIMMING.

ONE Saturday in November, six valiant swimmers who had attended all the practices of the life-saving class, went in to Montreal under the charge of Miss Hodges, and were examined in life-saving at the M.A.A. swimming tank. Hand drill, release drill, respiration, drill in the water, and even duck-diving were successfully accomplished, and the six are now qualified life-savers.

The girls who received the certificate and the bronze medal are: Miss B. Davis, Miss B. Field, Miss P. Stanford.

Those receiving the certificate are:—Miss D. Campbell, Miss L. Freedman, Miss M. Read.

BASKET-BALL.

On Wednesday, Dec. 5th, the first basket-ball match against R.V.C. was played on our grounds. Besides having two very exciting matches, the girls of both colleges had a most enjoyable time, as many were old friends, who were glad of this opportunity of seeing each other.

The R.V.C. girls arrived at 4.30 p.m., and were met at the station by members of the Macdonald teams. At 5 p.m. all were assembled in the gymnasium for the match between the second teams. There was a good audience to cheer the "Mac" girls on, most of the girls turning out, and several of the Faculty present also.

The match was a fast one, but the R.V.C. girls proved too strong for our team. Our low passing was good, the R.V.C. girls not being used to the larger gymnasium, played very high passes, which did not always reach the right spot; at half-time the score was 16 to 7 in favor of R.V.C. During the second half our team picked up a little, but R.V.C. kept their lead, and the game ended with a score of 34—17 in favor of R.V.C.

After tea we once more hurried to the gymnasium to play the match between the First Teams. This time the audience was large and most enthusiastic, Aggies, Teachers, and Science, vieing with each other to see who could sing loudest in the college songs.

The teams in this game were much more closely matched, R.V.C.'s team being little better than the second team. For the first half they had the lead, and the score was 14 to 9 in their favor. In the second half Macdonald showed their best mettle, and gradually the score crept up until a few minutes before time it stood at 18—17. At this the audience showed how Macdonald air develops lung capacity, and for the last few minutes cheered us on so nobly that it was impossible to distinguish the referee's whistle. However, our little shooter, in spite of all the tumult, got another goal in her usual style. A second later the time whistle blew, and "Mac" had won with a score of 19—18.

There was little time for anything more, as the R.V.C. girls had to rush off to catch their train, but all agreed that it was one of the most exciting matches ever played, and the "Mac" girls tired, but happy, marched off to the Horticultural Lecture, buoyed up by the hope of the apples at the end of it.

On Saturday, Dec. 8th, the Macdonald Team went into Montreal to play the return match against R.V.C. After being entertained at lunch in the college, the teams went down to the gymnasium.

The two matches were played alternately, half of one and then half of the other. The Second Team played up very well in the first half, but R.V.C. once again was too strong for us, and the match ended with a score of 29—13 in their favor.

Our First Team kept up their reputation the first-half, and the score was 12—12. In the second-half we got one free throw, and reached 13, and there the first team also stopped. R.V.C., used to shooting clean shots, won several more goals, and the match ended with a score of 28—13.

In both the matches the coaches of the two teams—Miss Cartwright and Mr. Thomson—very kindly refereed. The line-up of our teams on the first day was as follows:—

First Team.

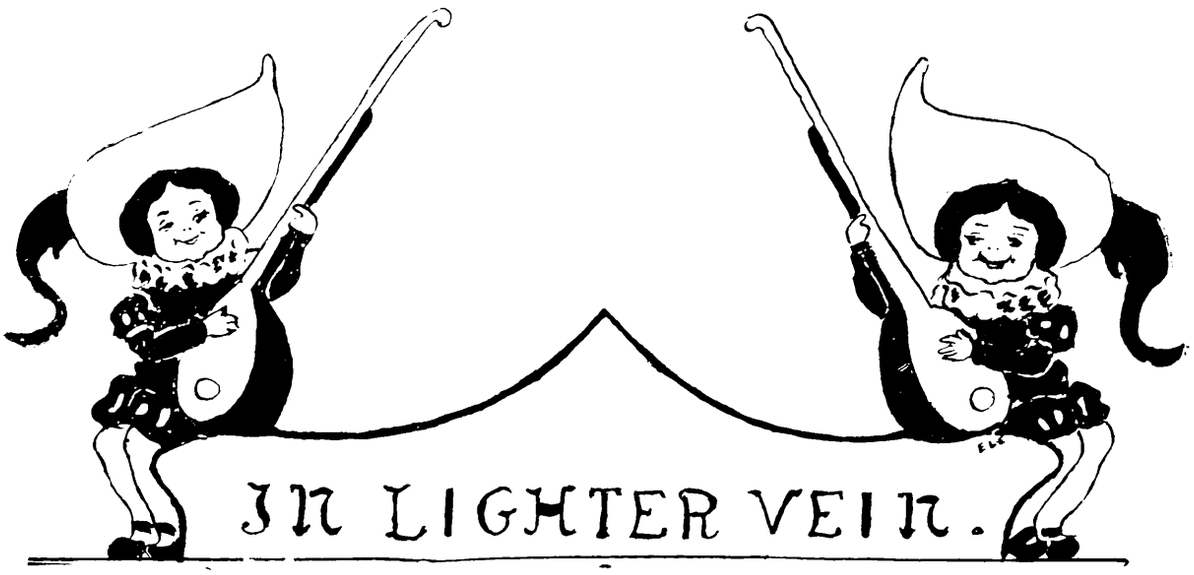
Forwards—E. Amaron, B. Field.
Centres—R. Jacques, B. Thorne.
Guards—A. Gardner, M. Taylor.

Second Team.

Forwards—Miss Booth, Miss Sorley.
Centres—Miss Ogilvie, Miss Fowler.
Guards—Miss Higginson, Miss McDougall.

On the second day the First Team was the same, with the addition of Jean Fowler as one of the centres. R. Jacques played jumping centre, B. Thorne and J. Fowler being the wings.

The Second Team was:—
Forwards—Miss Booth, Miss Sanders.
Centres—Miss Drennan, Miss Ogilvie.
Guards—Miss McDougall, Miss Sorley.



IN LIGHTER VEIN.

In Chemistry Class.

(Teacher) "What is hard water?

(Brilliant youth) "Ice."

* * *

The science girls have lately had an engagement with ancient eggs in Bacteriology class. Thursday was an exceptionally active day, and the air was heavy with the force of the encounter. None were actually gassed, but there was one severe case of shell-shock.

* * *

Helen C. (entering her over-heated room): "Where is Jean?"

(Voice from across the hall) "I don't know, unless the radiator."

* * *

Table Talk at Macdonald.

Eric, (serving the chicken-pie): "I'll give Helen the wing so she can fly away, and the drum-stick to Pete so he can beat it."

Helen: Oh! you poor nut. You ought to go back to the trenches and get shelled.

* * *

Professor (after lengthy explanation): "Is that quite clear now?"

Freshie: "Clear as mud."

Professor (abstractedly): "Well, that covers the ground."

Why is there such an uplifting influence at table eleven?

Because they have a Crane and a Derick there.

* * *

Did you ever see any one that could "get away with it" like Freddy?

* * *

Griggs—"I see by the papers that gowns may be worn longer next season." Briggs—"Thank heaven! My wife never wears a gown more than twice at present."—Boston Transcript.

* * *

Prof.: No one has discovered Na-ions or Cl-ions, as yet.

Student: Please sir ,I saw a sea-lion at the Zoo.

WE WOULD LIKE TO KNOW—

Who is the goodie-goodie in the senior class?

What Boulden's parrot would say if it could only talk?

If Bill Barnett is gaining any this winter? He is looking well, we will have to admit.

Also what he knows about the front-shoulders of a steer?

Why one of the seniors has developed such a taste for vinegar? There's a reason.

Have you noticed what a very dainty appetite Daly appears to have, girls? But you ought to see him eat after you have left the dining room. He takes everything in sight. That's a fact.

* * *

E—— B—— is very found of cats. Come, puss. Come to Eric.

* * *

Said a young cadet
To his Juliet,
I'm like a ship at sea,
Exams are near
'Tis much I fear
That I will busted be.
"Oh no," quoth she,
A shore I'll be;
Come rest. Our journey's o'er.
Then silence fell
And all was well,
For the ship had hugged the shore.

* * *

Overheard in one of the moonlights.

Arnold: You know I can only reverse one way.

Better stick to the Percherons, Gilbert, and leave the cars alone.

A. Des C

The Saponification of Esther as understood by Section B

$$CH_3COOC_2H_5 + NaOH + H_2O \rightarrow CH_3COOC_2H_5 \uparrow + SiO_2 \downarrow + H_2O$$

ODE TO "COOKIE"!

Who sits at the head of Table 4,
Serving soups, meats, and puddings galore,
With plenty of nerve and patience in store?
That's Cookie!

Who flirts with a couple of beautiful graces
At Table —, a number of paces
Far across the room at the window cases?
That's Cookie!

Who ate so much pudding at dinner one day
That he could not drill and he could not play,
But slipped out of "Gym." in a sneaky way?
That's Cookie!

Who comes out head in examinations,
Squelches us in class by his explanations
Of mathematical laws and derivations?
That's Cookie!

Who sits up from morning till night,
Reading and studying by candle light,
Revising methods till he can't see right?
That's Cookie!

Who in 148 comes down with a pounce,
With all the things he has to announce,
And out Dr. Steacy makes to bounce?
That's Cookie!

Who, on his walks on Sundays, can't forbear
To flirt with the girl with the light brown hair,
(But a fine, the next day, made him stare)
That's Cookie!

Who for the same thing, too, was dumped
Into ice-cold water pumped,
Till his hair stood on end, and out he jumped?
That's Cookie!

Who gathers specimens far and wide,
From all along the country-side,
And fills his room with the poor things dried?
Thats' Cookie!

Who gets called "Miss Cook" in every lecture,
By teachers, professors, and even the rector,
Till he wonders if he can be such a spectre?
That's Cookie!

But all things must come to an end at last,
And when all this work and worry is past,
Who at the top of the list will be cast?
Thats' Cookie!

AN impudent insinuation:—I never use a note-book to jot down my notes. I find it handier to make notes on my cuffs.—What with, chalk?

* * *

Girls in room 123 eating soda biscuits, jam and pickles. Bell rings below. —Come girls, let's stop eating and go down to supper.

In the Dining Room.

Will you pass the butter?

Not if I see it in time to turn and go the other way.

* * *

Hazel: Say, Anne, what are you going to do if you don't get your diploma.

Anne D.: I'm going to be a hammock tester.

* * *

Alice is still "Peggyng" away.

* * *

Kathleen (cramming for Christmas music exam.):—"Clara, what does 'Andante' mean?"

Clara:—"Anne Dante is the name of a composer. Her brother wrote a poem called Dante's Inferno.' '

* * *

Stranger: "May I ask what your occupation is?

Cab Driver (St. Annes): Oh, I coach the students.

* * *

Fordie: She's only a "Tin Lizzie."

* * *

The Freshies are considering having a "Mag." of their own—why shouldn't they? They already have two **pages** ready for their **daly**, they have a **shepherd** to look after the Live Stock Department, as well as several **writers of major** importance and several **minor** ones all **'andy** with a pen. They even have an **otto** to travel with. Yes, you may take this for granted and isn't it rather a **pauling?**

"Any rags? Any old iron?" chanted the dealer, as he knocked at the suburban villa.

The man of the house himself opened the door.

"No, go away," he snapped irritably. "There is nothing for you, my wife is away."

The itinerant merchant hesitated a moment, and then inquired: "Any old bottles?"—Pearson's Weekly.

* * *

A lady who was riding in a car was much disturbed by the persistent snuffling of a boy sitting next to her. At last she could stand it no longer. "Have you a handkerchief?" she asked, in her most appealing tones.

"Yes," said the boy, "but I don't lend it to strangers!"

* * *

The artilleryman believes that war is shell.

* * *

Close Quarters.

"How cold your nose is!"

These words came from the daughter of the house who was sitting in the parlor with her beau.

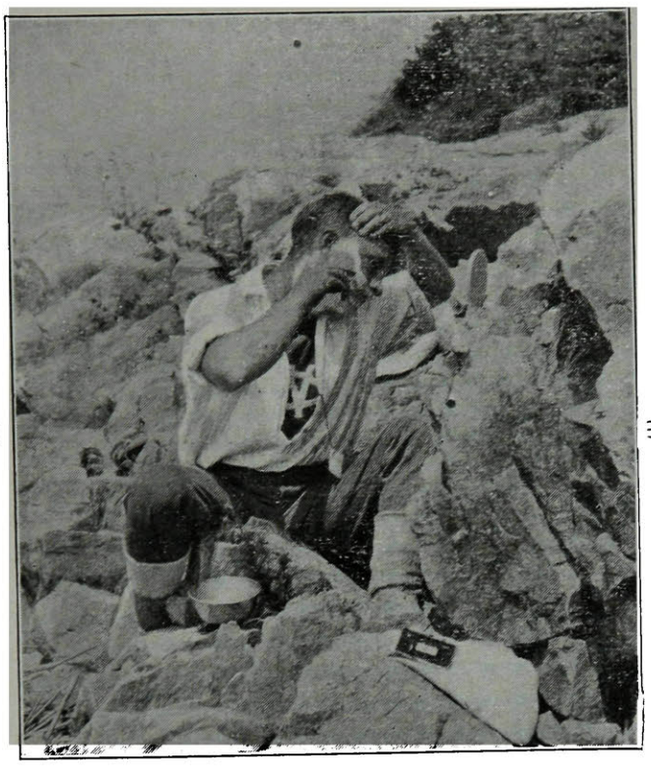
"Is Towser in the parlor again?" demanded her mother from the next room.

"No, mother, Towser, isn't in the parlor."

And then silence resumed its reign.—Exchange.

* * *

Did you ever see Singer when he wasn't wearing his hat?



The Ex-Editor "roughing it", but enjoying a smooth Gillette shave

Conditions make no Difference to the

GILLETTE Safety Razor

When your shaving mirror rests on a rock in the heart of a camping paradise—when your beard is tough, sun-cured and wiry — so long as you have soap and water the Gillette will give you the same clean, smooth shave that you get in a tiled, enamelled bathroom. It's the one razor that is always keen and ready for action —that never drags or disappoints.

Don't "ride" the Gillette — don't try to "hoe" your beard off with it! Hold it lightly—draw it across your face with the Angle Stroke necessary to make any edged tool cut smoothly—and you'll wonder what has made your beard so soft and easy to shave.

Gillette Safety Razor Company of Canada, Limited

Office and Factory: Gillette Building, Montreal.

Eric Boulden: This is an awful heavy fork!

Dorothy: Yes, you ought to have Susie Crane here to raise it for you.

She: When is your sister thinking of getting married?

Bill: Constantly.

* * *

Mistletoe, they say, is going to be very scarce this year, but that won't make any practical difference to us boys.

Does the Dog Know?

"The Frenchman did not like the look of the barking dog barring his way.

"It's all right," said his host. "Don't you know the proverb: 'Barking dogs don't bite?' "

"Ah, yes!" said the Frenchman. "I know ze proverbe, you know ze proverbe; but ze dog—does he know ze proverbe?"